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Contributions to the Statistics of Sugar Produced within the British Dominions in India. 1850

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PRICES

OF

THE CEREALIA AND OTHER EDIBLES IN INDIA AND ENGLAND COMPARED.

BY LIEUT.-COLONEL W. H. SYKES,

VICE-PRESIDENT OF THE ROYAL SOCIETY.

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[Read before the Statistical Section of the British Association at Oxford, 29th June, 1847.]

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In the month of November last, in consequence of the high ruling prices of bread stuffs in England, with the almost certain prospect of a speedy enhancement that would cause much privation in the mass of the population, I was induced to call the attention of the Statistical Society of London to India, as a source of supply; not only on the ground of the great variety of bread-grains which India produces, but for the average cheapness of these grains, which, compared with prices in England, would leave a very wide margin, even when scarcity did not prevail in Europe, for the costs of transit from the interior to the coast in India, the expense of shipping and freight, and other contingent charges, and yet leave a moderate profit; but which source of supply, in cases of protracted dearth in Europe, not only would become of high importance to the welfare of England, but would hold out to merchants the chances of a considerable pecuniary return. With these views, but limiting my comparison of prices to Wheat, Wheat-Flour, and Peas, (Dhall), in Bengal and the North-Western Provinces, and England, I submitted the following table at a meeting of the Statistical Society:—

BENGAL. Averages for July, 1845 for 54 Towns.			ENGLAND. Averages, November, 1845, Mark Lane.		
Quantity of Wheat procurable for the Rupee of 2s.	Quantity of Flour procurable for the Rupee of 2s.	Quantity of Dhall procurable for the Rupee of 2s.	Quantity of Wheat procurable for the sum of 2s.	Quantity of Flour procurable for the sum of 2s.	Quantity of Peas procurable for the sum of 2s.
About 57½ pounds, or 16s. 8d. per quarter.	About 31 pounds.	About 40½ pounds, or 23s. 6d. per quarter.	About 17 lbs. at the average market quotation of 57s. per qr.	About 11 lbs. at the average market quotation of 52s. for the sack of 280 pounds.	About 19 lbs. at the average market quotation of 52s. the quarter.

Average Weight of Wheat is 60 lbs. to the bushel; 8 bushels, or 480 lbs. to the quarter.

It is hence seen that with Wheat at 57*s.* per quarter in England in November, it was nearly three-and-a-half times dearer in England than in India, the averages in India having the disadvantage of being founded upon retail prices at great military stations, where there would necessarily be considerable demand, and, consequently, enhanced prices. Flour was about three times dearer in Mark Lane than in India, and Peas more than twice as dear.

To give the facts upon which this comparison of prices was founded a wider circulation, in the month of January I inserted the above table in the "Times" newspaper, in the hope that attempts might be made to profit by the information it contained. From a gentleman, however, of the London Custom-House, who had heard my first communication to the Statistical Society, and who had, in consequence, been carefully watching the importations, I have since learnt that not any bread-stuffs whatever have been brought from India to London, nor is he aware of any order having been sent for their importation*. Under these circumstances I might have allowed the subject to rest, but several prices current, some of them for a series of years from various parts of India, having recently come into my hands; bearing in mind also the recent change in the Corn Laws in England,—the prospects of railways in India, and the facilities that will thus be afforded for the cheap conveyance of produce from the interior to the coasts, I would look to a period when the cereal resources of India may be made available in England; and I desire, therefore, to put upon record such numerical facts as may promote that object, and be useful to parties, whether in England or India, who may wish to form a judgment upon the policy and probable pecuniary results of entering into new channels of commercial enterprise.

I am indebted to Mr. Chapman, who has been employed in Western India in working out the statistics of the probable trade of a projected line of railway from Bombay towards the cotton districts of Berar, for several tables of prices. Some of them were supplied to him by the civil and military functionaries to whom he applied; and the accuracy of the tables is attested by the official signatures of the parties. Some of the tables were supplied by Mamlutdars, or native revenue functionaries. As neighbouring towns and villages in India have frequently weights and measures of similar denominations, but varying from a common standard, Mr. Chapman had very considerable difficulties to contend with in reducing weights and measures to the common, or so-called Indian standard, of 14,400 grains avoirdupois to the seer. As far as Mr. Chapman is concerned, I am free to bear testimony to his unwearying industry and desire of accuracy; and any sources of error in converting local seers into Indian seers, must be referred to the native authorities at those localities; but the errors themselves (if existing,) merge in striking averages, and have not any serious bearing upon general results.

It may be as well to premise, that the cereal resources of India are not limited to the very few bread-stuffs that Europe produces. Wheat, which is the chief bread-stuff of Europe, and which all classes look upon as necessary to existence, and which indeed is proverbially the staff of life, is in India so dear comparatively with other grains, that it

* Within the last fortnight a few bags of wheat have been brought from Calcutta.

forms the food of only a small part of the population; and probably seventy or eighty millions of souls live upon grains whose names are scarcely known except to the learned in Europe, but which, nevertheless, are productive, nourishing, and wholesome. It is equally a mistake to suppose that the people of India live upon rice. That grain is very frequently twice the price of wheat, (excepting in a few localities,) and can only be used by the masses who dwell in low lands where Nature floods the soil periodically, and where the absence of any marked inclination in the country admits of the easy retention of the water. Wherever works for irrigation are necessary, an enhanced price of the products is the consequence; and in proportion to this enhancement is the limited consumption by the people. Rice, therefore, produced by artificial irrigation, is scarcely within the reach of the lower classes.

The following are some of the bread grains produced in India and Arabia:—Belonging to the Khurreef, or wet-season harvest, Jowaree, or Jondla, (*Holcus sorghum*, or *Andropogan sorghum*,) is most extensively cultivated. Of this species there are eight varieties. From a single head of one variety (Shaloo), taken at random, I have obtained 2,895 perfect seeds. The grain, which is about the size of white mustard seed, is sweet, palatable, and nutritive. The next most commonly cultivated grain is Bajra, or Sujgoora, (*Holcus spicatus*, or *Panicum spicatum*). Under favourable circumstances there are from two to eight heads to one stalk; and I have obtained 2,120 seeds from a single head, which in the case of eight heads would give a return of 16,960 for one. The grain is somewhat larger than canary seed. The next grain is Rahle, or Kungnee, (*Panicum Italicum.*) There are two varieties, each stalk generally with one head, giving a return of 1,850 for one. The next grain is Bhadlee, (*Panicum miliaceum*); the plant has sometimes three or four stalks, but each with one head only. The grain-bearing Panicums, however, are not limited to these, for so numerous are they in Ceylon, that Moon, in his Catalogue of Ceylon Plants, gives Latin names to no less than thirty distinct species. Kodroo is the next grain, (*Paspalum frumentaceum*,) one of its Mahratta names is Bhurtee, in allusion to its extraordinary fertility. The stalks from one seed vary from four to eleven; but on the edges of a field where the plants have an opportunity of spreading, I have counted twenty stalks radiating from a single root. Each head averages 1,083 seeds; and for the plant with twenty stalks there would be a return of 21,660 for one. But on the 15th of September, 1825, near Serroor, I counted thirty-three heads of grains on a single plant, each head averaging 1,860 seeds, giving the astonishing return of 61,380 seeds for one. The average of seven heads to a plant would give a return of 7,581 for one. The grain is the size of a pin's head.

Mukka, or Indian Corn, (*Zea Mayz*,) comes next. It is not usually cultivated as a bread-grain, but when nearly ripe the head is fried and eaten with butter or sugar. Should the farmer have more than he can consume in this state the rest is allowed to ripen, and the seed is ground into flour. The stalk sometimes reaches the height of from nine to twelve feet. This is the "Indian Corn" whose importation into England from America has so essentially contributed in the late scarcity to relieve the sufferings of the people.

Rice is cultivated wherever physical circumstances are favourable to

it. It is called Dhan or Bhat, (*Oryza sativa.*) The natives in Western India consider that there are at least eight or ten species of rice, and very many varieties. But Mr. Moon, in his Catalogue of the Plants of Ceylon, gives the names of no less than 160 varieties, from the wild rice to the most delicate, each having its Singhalese native name,—bird's-beak, melon, sprigless, red hare's-chin, leafless, white-jointed gold, rattan-leaved, &c., &c.; and each of these names Mr. Moon has translated into English. The return in the Deccan is reckoned at about 30 to one. A very important grain is Natchnee, or Ragee, *Eleusine Coracana*, or *Cynosurus Coracanus*, The grain is much valued by the poor, from its hardihood, abundant return, wholesomeness, and cheapness. The return is reckoned at 200 for one. Sawa is another cultivated panicum, but the species is not satisfactorily ascertained. The grain is of the size and form of a canary-seed, but blackish; the return about 48 for one. Wuree is the last of the bread grains of the Khurreef, or wet-season harvest. This is said to be the *Coix barbata.* It is small, of the size, colour, and character of the canary-seed; the return 240 for one. The pulses and legumes of the Khurreef harvest are too numerous to detail.

Of the Rubbee, or spring, or dry-season harvest, the principal bread-grain produce is wheat, of which there are four varieties, two of which have such peculiar and permanent characters as to justify their being designated species. All the wheats are bearded. The first is Bukshee, the next Kupleh, the third Kateh, and the fourth Potayai. All the varieties have from two to twenty-five stalks from the same root; and I have a specimen in my possession with twenty-five stalks. The first gives a return of about 81 for one. The Kupleh has the husk closely attached to the grain, whence its name. Examining a field on the 20th of February, 1825, I found few plants with less than ten stalks, and the grains from some of the heads were $\frac{9}{10}$ths of an inch long, and the lower glumes were treble seeded. Each head averaging 58 grains. This would give a return of 580 for one, but with twenty-five ears the return would be 1,450 for one. The Katch, so named from the seed terminating in a prickle, or point, gives a return of from 384 to 480 for one, and the Potayai, which is a short-bellied grain, whence its name, returns about 210 for one*.

Urburee, or Chenna, (*Cicer arietinum,*) forms a part of every farmer's cultivation. It is a highly valuable pulse, although chiefly given to horses in India as a substitute for oats and barley; it is used nevertheless by the people in a variety of ways;—as split peas in Europe, and when parched, travellers live for days upon it on a journey; it is made into puddings and stirabout, and it is even used as a bread-grain, being ground into flour and made into cakes. There are four varieties. The returns upon a plant range from 58 seeds up to 170. The grain is about the size of a marrowfat pea, and in form is like a ram's head, (whence its name). The Shaloo, or Jowaree, is that variety or species of *Holcus*, or *Andropogon*, which is sown at the end of the rains, unlike the rest of the varieties, and it belongs therefore to the spring harvest. The grain is held in high estimation, and is the general food of those of the lower orders who do not inhabit the mountainous or jungly

* The wheats ripen in January and February.

tracts. It ripens in February. I ascertained that the average return in one head of the plant was about 1,514 seeds for one.

Jau, or Jo,—Barley,—(*Hordeum hexastichon.*) Barley is not generally cultivated, and is seldom used for bread; but it is necessary in many sacrificial ceremonies of the Hindoos. Four varieties are mentioned in Hindoo books. On the 1st of February, 1826, I found some fields of barley ripening at Tulleeghur, on a table land in the Deccan, about 3,000 feet above the sea, and in March I met with some fields in the Desh, or open country, at less than 2,000 feet above the sea, latitude 18° to 19° N., the plants averaging five heads of grain, and giving a return of 240 for one.

Watanah, or Muthur, (*Pisum sativum,*)—Peas—are cultivated, but not so extensively as gram (Cicer). They are used precisely as gram is used, but are not so much esteemed.

Dhall (*Cytisus cajan*).—This shrub produces the universal substitute for the split pea of Europe, but it is a much sweeter and more agreeable pulse than the pea.

Such are the edible grains of the spring harvest. Of the other products the four species of sugar-cane, cotton, tobacco, dyes, oil-seeds, hemp, flax, and the condiments belonging to "garden produce," it is not necessary to speak, as I shall not be able to use them in any comparison of prices. Indeed, my chief motive for the above enumeration is to point out the numerous bread-grains of India which cannot come into any comparison with European products, but which, if not mentioned, might lead the European speculator to suppose that he had nothing more to look to than the grains enumerated in the Price Lists, to which I now refer.

The first Price List gives the average number of seers per rupee of 2*s.* at seven different markets in the collectorates of the Deccan, under the Bombay Presidency, from the years 1827 to 1845 inclusive. The grains are wheat, rice, gram, bajra, and jowaree. In this table the averages are given in the local seers of the markets; for the most embarrassing discrepancies exist in the magnitude of measures of the same denomination even at neighbouring villages; and this fact should be generally known to prevent misconceptions in regard to the absolute value of local means of supply. I present the table also in its present state to warn the speculator against an entire reliance, even upon a system of averages, for a series of years; and particularly to guard him against a reliance upon the prices of any one year continuing in the following or succeeding years. In fact, the produce of the Khurreef harvest is dependent on the continuous but temperate supply of water during the monsoon; and the crops should be equally removed from the extremes of being drowned or dried up. In the Rubbee, or spring, or dry-season harvest, the crops are influenced by the amount of dew deposited; and departures from a normal state in all these matters produce the most violent fluctuations in prices. For instance, the prices of the Khurreef produce at Indapoor fluctuated from 15½ and 18 seers of bajra per rupee in 1845 and 1832 respectively, to 58 seers and 54 seers in the years 1837 and 1828 respectively. The extreme range between any one year at any one of the seven markets and any other year was, from 15½ seers at Indapoor in 1845 to 64 seers at Kulus in 1828. It will be observed also, that the prices at the seven markets sometimes differ widely from each other in

the same year. In the produce of the Rubbee, or dry-season crop, we find wheat varying in price at Kulus from 13 seers in 1845 to 42 in 1837, and at Sewnere, in the same years, from 13 to 44 seers. The extreme range, in the nineteen years, appears to have been from 12 seers in the Mawals, or hilly tracts, in 1845, to 44 seers at Sewnere in 1837. These facts offer sufficiently instructive lessons; and as the figures used are averages of prices for the year in each market, the fluctuations within the year, were they known, might exhibit greater discrepancies.

Table II. presents the local seer measures of No. 1 reduced to Indian seer measures, each seer containing 14,400 grains weight avoirdupois of bajra, which, from the uniformity and unchangeableness of the seed, is looked upon as the best standard by which to fix the capacity of a native measure. This plan, however, is not so efficient as one I recommended to the Government of Bombay twenty years ago. With a view to insure uniformity in weights and measures throughout the Deccan, I suggested that the Company's rupee should be the multiple, whether for weights or measures; and that measures of capacity, without regard to form, should contain a quantity of water at the ordinary temperature, equal to the weight of a prescribed number of rupees. This would have insured sufficient exactness for all practical purposes; and the means of testing the accuracy of the weights and measures would always have been available to the collectors and magistrates, and the native names of the divisions would have been preserved. This simple plan, however, remains to be adopted.

The reduction of the local measures of Table II. into Indian measures was effected by Mr. Chapman, and must have been a work of infinite labour, as he had to ascertain the exact value of each local seer. The annual averages in Indian seers, so reduced, were converted by me into avoirdupois weight, and consequent upon that last conversion the price per quarter English has been determined, and the following are the results:—

	Indian Seers per Rupee, average of 19 Years.	Indian Seers in Avoirdupois weight.	Prices per Quarter English.
		lbs. oz.	*s.* *d.*
Wheat	$31\frac{5}{19}$	64 5	14 10
Rice	$17\frac{17}{19}$	36 13	0 $\frac{7}{16}$ per lb.
Gram	$29\frac{13}{19}$	60 5	15 11
Bajra	$40\frac{7}{19}$	82 10	11 7
Jowaree	$48\frac{6}{19}$	100 8	9 6

It is thus shown that an average of years gives 64 lbs. 5 oz. of wheat for 2*s.*, 36 lbs. 13 oz. of rice, and 100½ lbs. of that nutritious grain, jowaree (*Holcus sorghum*), for 2*s.*; a sufficiency to support a man for two months at least, if the dietary in the prisons of the North-Western Provinces and Bengal be taken as a standard. In these prisons the daily allowance to a convict is from 1 to 2 lbs. of wheaten flour, regulated by the nature and duration of the hard labour to which the convict may be condemned. But Table II. shows that in 1828 the

average price of jowaree gave nearly 137 lbs. avoirdupois for 2*s.*, so that a man could support himself for much less than a halfpenny per diem, and get fat upon it. But if reference be made to Table No. I, it is seen that at Kulus in the years 1828 and 1843 there were 80 local seers of jowaree per rupee, or 99$\frac{5}{9}$ Indian seers, equal to 204 lbs. avoirdupois, for 2*s.*, or more than 2 lbs. for a farthing, so that a man could live for less than a farthing per diem for the cost of meal. In wheat it is seen that the average prices in 1828 and 1836 were 36$\frac{1}{5}$ and 36$\frac{5}{7}$ Indian seers per rupee, equivalent to 74 lbs. and 75$\frac{1}{4}$ avoirdupois. The above bread-grains, at such cheap rates, are within a moderate distance of the sea-coast. But Tables III., III*., and III**., carry us farther inland, and the cheapness is very much greater. These tables are from Colonel Sleeman, the Commissioner of the Saugor and Nerbuddah territories, and give the prices at seven markets within his commissionership from 1831 to 1840 inclusive, and from 1843 to 1846, both inclusive; but the prices of wheat, gram, and rice, only are given. In these tables it is shown that at Baitool in 1843 as much as 167 lbs. avoirdupois of wheat were sold for 2*s.*, and at the seven markets enumerated the price varied in the year only from 5*s.* 6*d.* per quarter English to 6*s.* 8*d.* In succeeding years the prices were slightly enhanced, but in 1846 famine prices ruled owing to the failure of the monsoon; that is to say, at Baitool the price of wheat, which in 1843 was 5*s.* 6*d.* per quarter, became 21*s.* 8*d.* But the average prices of wheat at the seven markets for the years 1843, 1844, and 1845, was 7*s.* 6$\frac{3}{4}$*d.* per quarter: gram, similarly, was 7*s.* 7$\frac{1}{2}$*d.* per quarter, and rice, 4*s.* 4$\frac{1}{2}$*d.* per cwt. For the ten years preceding, from 1831 to 1840, the average price of wheat was 10*s.* 6*d.* per quarter (Table III**).

Table IV. gives the prices at Hoshungabad for various periods, upon the authority of Colonel Ouseley, the Principal Assistant-Agent to the Governor-General. Mr. Chapman has reduced part of this table to the price per ton in favour of wheat, gram, and rice, from the years 1822 to 1838, both inclusive. The prices are separately given for November, the sowing time, and June, the storing time. Prices are somewhat dearer at sowing time, but not markedly so. The fluctuations in prices in this long period are less than might have been expected. It will suffice to give the maximum and minimum prices of wheat, gram, and rice, at the sowing or dearest time. In 1826, wheat was 5*s.* the quarter, gram, 3*s.* 7*d.* per quarter, and rice, 2·83 lbs. for 1*d.*, or 33·96 lbs. for 1*s.*, or 3*s.* 3$\frac{1}{2}$*d.* per cwt. In 1833 the monsoon failed, and in 1834 famine prices ruled in consequence. Wheat was 23*s.* 10*d.* per quarter, gram, 14*s.* 9*d.* per quarter, and rice was 1·46 lbs. for 1*d.*, or 17·52 lbs. for 1*s.*, or 6*s.* 5*d.* per cwt. The average prices for these sixteen years, including the years of dearth were, wheat, 10*s.* 8$\frac{3}{4}$*d.* per quarter, gram, 7*s.* 11*d.* per quarter, and rice, 4*s.* 7$\frac{1}{2}$*d.* per cwt. As I would rather lean to the unfavourable view of prices than to the favourable, I shall not give the prices in harvest time.

Table V. was supplied by the Resident at Nagpoor, Colonel Spiers, and contains the accounts of the quantities, and the price of salt imported into Nagpoor in 1846, the cost of carriage to and from the coast, and the prices of grains for the years 1843, 1844, and 1845;

but as the monsoon had failed in all these years, particularly in the last, little use can be made of this table. Nevertheless, wheat in 1843 was 113$\frac{1}{7}$ lbs. for 2*s.*, or 8*s.* 7*d.* per quarter, and in 1845, the scarcity year, 59$\frac{5}{7}$ lbs. for 2*s.*, or 16*s.* 1*d.* per quarter, and the average of the three years was 88$\frac{4}{7}$ lbs. for 2*s.*, or 10*s.* 10*d.* per quarter. The average of the cheapest rice, 59$\frac{4}{7}$ lbs. for 2*s.*, or 3*s.* 9*d.* per cwt., and the dearest 38$\frac{2}{7}$ lbs. for 2*s.*, or 5*s.* 11*d.* per cwt. The cheapest gram, 82$\frac{2}{7}$ lbs. for 2*s.*, or 11*s.* 8*d.* per quarter; the dearest, 58$\frac{4}{7}$ lbs. for 2*s.*, or 16*s.* 4$\frac{1}{2}$*d.* per quarter, and the average 73$\frac{2}{7}$ lbs. for 2*s.*, or 13*s.* 1*d.* per quarter. It is seen from Colonel Spiers's memorandum that the cost of taking cotton or other produce from Nagpoor to Bombay and back is 50 rupees for 7 maunds (about 19*s.* 5*d.* per cwt.); but this is for the double journey; and the single trip, supposing the cart loaded both ways, would cost 9*s.* 8$\frac{1}{2}$*d.* per cwt., or about 1*d.* per lb. If the cost of carriage be in Nagpoor rupees the above sums are respectively 15*s.* 5*d.* and 7*s.* 8$\frac{1}{2}$*d.*

Table VI. gives the prices of rice, wheat, jowaree, bajra, and gram, in Goozrat, at the cities of Ahmedabad, Khaira, Broach, and Surat, on the 15th August, 1846. As the prices are only for one year, and that a year of scarcity, they cannot afford any guide for the usual prices in Goozrat. It will suffice to state that the average price of wheat at Ahmedabad, was 27·6 seers per rupee, (55$\frac{1}{2}$ lbs.) or 17*s.* 11*d.* per quarter; the cheapest, was 35·7 seers (72 lbs.), and the dearest, 24 seers (49$\frac{1}{4}$ lbs.), while at Broach the average was only 12·63 seers (25$\frac{1}{2}$ lbs.), the lowest price, 14·20 seers (28$\frac{3}{4}$ lbs.), and the highest, 11·20 seers (23 lbs.) The average price of rice at Ahmedabad 25$\frac{1}{2}$ seers (52$\frac{3}{7}$ lbs.), or 4*s.* 3*d.* per cwt., gram, 16$\frac{3}{4}$ seers (34$\frac{3}{7}$ lbs.) per rupee, or 28*s.* per quarter, jowaree, 34$\frac{3}{4}$ seers (71$\frac{2}{7}$ lbs.), or 13*s.* 5*d.* per quarter, bajra, 27$\frac{1}{2}$ seers per rupee (56$\frac{4}{7}$ lbs.), or 16*s.* 11*d.* per quarter.

Tables VII. and VIII. give the retail prices respectively at fifty-three and fifty-six military stations in the Bengal Presidency for the years 1845 and 1846 of bread-stuffs, beef, mutton, butter, sugar, fowls, &c. These tables labour under great disadvantages, as they do not give the wholesale prices of any article, and are only for two years, and those years of comparative scarcity. But even with these disadvantages it is found that wheat in 1845 averaged 57 lbs. 10 oz. for 2*s.*, or 16*s.* 8*d.* per quarter; the first sort of rice, 25 lbs. 7 oz. for 2*s.*, or $\frac{98}{100}$ of a penny per lb., or 8*s.* 9$\frac{1}{2}$*d.* per cwt., and the third sort of rice, 45 lbs. 4 oz. for 2*s.*, or $\frac{53}{100}$ of a penny per lb., or 4*s.* 11*d.* per cwt.; dhall, or split peas, 40 lbs. 12 oz. for 2*s.*, or 23*s.* 6*d.* per quarter; flour, 31 lbs. for 2*s.*, or $\frac{77}{100}$ of a penny per lb.; sugar-candy, 6 lbs. 10$\frac{3}{4}$ oz. per rupee, or 3$\frac{1}{2}$*d.* per lb.; salt, of the first sort, 20 lbs. 9 oz. per rupee, or 1$\frac{1}{5}$*d.* per lb., or 10*s.* 11*d.* per cwt. But these averages would be fallacious guides were the merchant to allow them to influence his purchases; and the return therefore affords a useful lesson, that even averages in statistics may mislead. For instance, the *average* price of rice is 25 lb. 7 oz., and of the second kind, 45 lbs. 4 oz., while at Chittagong, a place accessible by sea, it is respectively 82$\frac{2}{7}$ lbs. and 102$\frac{6}{7}$ lbs. per rupee, or 2*s.* 8$\frac{1}{2}$*d.* and 2*s.* 2$\frac{1}{2}$*d.* per cwt., and the same feature is observable in some other articles. With respect to the price of meat and fowls, it is seen that bullocks varied in price from 5 rupees, or 10*s.* per head, at Chunar to 7 rupees 10 annas, or 15*s.* 6*d.* at Calcutta, and 20 rupees, or 40*s.*, at

Allahabad; sheep vary from 5 rupees 2 annas, or 10*s.* 3*d.*, at Calcutta, to half a rupee, or 1*s.*, at Benares; and the ordinary price would appear to be about 2*s.* 6*d.* for a sheep. Fowls are classed in three sorts, and vary in price from two, three, and four, at Lucknow, of the respective sorts, per rupee, to twenty of the first and second sort, at Almorah. In the return for 1846 the prices are somewhat enhanced, but not sufficiently so to render it necessary to go into details.

It has been shown that the average price of the *best* salt was 20 lbs. 9 oz. for 2*s.*, varying at different places from $5\frac{3}{4}$ lbs. at Calcutta, or 38*s.* 11*d.* per cwt. (refined for European families?) to $49\frac{1}{7}$ lbs. at Cuttack, or 4*s.* $6\frac{3}{4}$*d.* per cwt., but it will be recollected that these are the retail prices of a monopolized article. The duty on imported salt into India has been twice reduced within the last three years. On the 18th October, 1844, it was ordered by the Supreme Government to be reduced from $3\frac{1}{4}$ rupees (6*s.* 6*d.*) to 3 rupees (6*s.*) per maund of $82\frac{2}{7}$ lbs. avoirdupois. On the 31st March, 1847, it was further reduced to $2\frac{3}{4}$ rupees, or 5*s.* 6*d.*, per $82\frac{2}{7}$ lbs. At the previous period the Government store-salt in Bengal was directed to be sold *wholesale* at prices varying, according to the reputation of the salt at the ten places of manufacture*, from 356 rupees per 100 maunds (8,228$\frac{4}{7}$ lbs.) of Madras salt to 400 rupees for Cuttack salt. On the 31st March, 1847, the prices were further reduced to 331 rupees and 375 rupees per 100 maunds for the salt of the same places respectively, and the Government pledged itself not to alter these prices before the 1st April, 1849. It is thus seen that the wholesale price of the Madras salt was about 25 lbs. per rupee, or $12\frac{1}{2}$ lbs. for 1*s.*, or something less than 1*d.* per lb., and that of Cuttack salt about $20\frac{1}{2}$ lbs. per rupee. At Calcutta, therefore, the retail price ($5\frac{3}{4}$ lbs.) of the best salt was four times that of the wholesale price; and generally in the Bengal Provinces, excepting at Cuttack and Chittagong, where the market *retail* price was *lower* than the Government *wholesale* price, (strange as it may appear,) the profits to the wholesale purchaser must have been very considerable indeed. But in case we look to prices in the North-Western Provinces, Bundlecund, Malwa, and our newly-acquired provinces beyond the Sutlej in the Punjaub, the anomalous and startling fact presents itself that the *retail* prices, with few exceptions, are below the *wholesale* prices in Bengal, showing that there is a source of supply independent of the Government sales. For instance, at sixteen stations from Calcutta to Allahabad, (always excepting Cuttack and Chittagong,) the average retail price of the best salt is $12\frac{1}{7}$ lbs. for 2*s.*, a little more than half the wholesale price of Cuttack salt, $20\frac{1}{2}$ lbs.; but beyond the limits of Allahabad, at twenty-nine stations, the average retail price is $23\frac{1}{7}$ lbs., while the wholesale price at which Cuttack salt was put up by Government was only $20\frac{1}{2}$ lbs. for 2*s.* Nagpoor is supplied from the western coast of India; and on the 30th July, 1846, the price of salt was $30\frac{2}{16}$ rupees per kundee of 611 lbs. avoirdupois, giving not quite 20 lbs. per rupee; Nagpoor, therefore, could not have been the channel of supply. But at Kheir, in the

* Hedgillee, Tumlook, 24 Pergunnahs, Chittagong, Arracan, Kurra, Cuttack, Balasore, Khurdah, Madras.

Poona collectorate, under the Bombay Government, the following are the prices of salt in the respective years:—

	Local Seers.	Indian Seers.	Tolas.
1840	34	43	28
1841	32	40	64
1842	33	42	8
1843	30	38	20
1844	31	39	22
1845	24	30	48

The average is nearly 35 Indian seers per rupee, or 72 lbs. avoirdupois, instead of 20½ lbs., as in Bengal, and 20 lbs. as at Nagpoor, or 23⅘ lbs., as in the North-Western Provinces; the western coast no doubt, therefore, supplies Central India and Bundlecund to some extent, but the North-Western Provinces are probably supplied from the salt-beds of the Punjaub, or from the salt lakes of Ajmere. It is right here to state that the salt tax in the North-Western Provinces is levied as a customs' duty only.

Very much has been written regarding the pressure of the salt monopoly upon the people of *India*, and the above facts and prices afford the means of putting the value of the assertion to a practical test; and for fixing the real portion of a man's wages which he is compelled to expend upon salt as a necessary of life. In the first place the so-called monopoly is confined to Bengal, where the average retail price of the *best* salt is about 20½ lbs. per rupee. Various native authorities concur in stating that a single man consumes one seer of salt (14,400 grains,) per month, but that a family average about three-quarters of a seer (10,800 grains). In the gaols of the North-Western Provinces a convict is allowed 225 grains per diem, which, for thirty days, is 450 grains less than half a seer, and is 250 grains less than one pound avoirdupois, and it is looked upon as ample. But taking three-quarters of a seer per head (10,800 grains), or even one seer (14,400 grains), the rupee's worth of the *best* salt, which the poor do not consume, would last a man, in the first case, 13⅓ months, and in the second case, 10 months; and as the average wages of an agricultural labourer are 3 rupees, or 6*s.* per month, and all other classes have higher wages, it results that one-third of a month's wages supplies a man's salt for 13⅓ months, at 10,800 grains, or three-quarters of a seer per month, or at the allowance of one seer per month, two shillings' worth of salt lasts him ten months; three-quarters of a seer per month costing him about the fourth of a farthing per diem, and one seer, costing a scarcely appreciable fraction more. And yet it has been deliberately asserted in print, for selfish purposes, that a year's salt for a labourer costs him three months' wages. But if the Kheir average price of 35 seers per rupee be used, then 35 seers will last a man thirty-five months, at a cost of $\frac{7}{10}$ths of a penny per month, or 0·025 of a penny per diem; and a glance at the Tables VII. and VIII. will show that two shillings' worth of salt at many places in the North-Western Provinces will last a man from eight to twenty-three months. At Calcutta the retail price of 5¾ lbs. is 2*s.*, (although it is shown the Government sell 20½ to 25 lbs. for 2*s.*,) no doubt presses severely upon a poor man, for a third of a month's wages, or 2*s.*, would supply him with

only three months' salt, instead of thirty-five, eighteen, or ten months' salt, as elsewhere, but this must be the price of refined salt, which of course is not used by the poor. This severe pressure, however, exists only in Calcutta, and is to be attributed to the cupidity of the retailers, and not to the Government. In Bombay, from an invoice of 200 tons of salt in July, 1845, of Messrs. Nicol and Co., sent to Calcutta, the cost to them, including excise duty of 1*s.* 6*d.* per 82$\frac{3}{7}$ lbs., and carriage from Tanneh to Bombay by water, was 2*s.* 5$\frac{1}{4}$*d.* per cwt.; there were, therefore, 45 seers, or 92$\frac{4}{7}$ lbs. for 2*s.*, and a third of a labourer's monthly wages at 3 rupees per mensem, would supply him with salt for forty-five months. The wholesale price of salt in London varied in the years 1844 and 1845 from 37*s.* (coarse) to 45*s.* (fine) per ton, and in 1846 and 1847 from 35*s.* (coarse) to 47*s.* (fine) per ton.

The following table exhibits the final results of prices in contrast:—

	Wheat, per Quarter.	Rice, per cwt.	Gram, per Quarter.	Flour, lbs. per Rupee.	Peas, or Dhall, per Quarter.	Jowaree, per Quarter.	Bajra, per Quarter.	Sugar, per cwt.	Salt, per cwt.
	s. *d.*	*s.* *d.*	*s.* *d.*		*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
London, Nov., 1846	57 0	22 0	..	11	52 0	..	..	53 0 49 0 45 0 50 0	..
London, June 1st, 1847	102 0	24 6	..	..	68 10	..	..	49 6	..
Bengal, 53 markets, 1845 and 1846	16 8	4 11 to 8 9$\frac{1}{2}$	14 9	31	23 6	..	..	..	9 0 to 10 11
Bengal imports by sea	..	..	..	..	..	..	..	..	11 4
Deccan, averages of 19 years	14 11	6 2$\frac{1}{2}$	15 11	..	..	9 6	11 7	..	3 1
Saugor, averages of 3 years	5 6 to 7 6$\frac{3}{4}$	4 4$\frac{1}{2}$	7 7$\frac{1}{2}$	..	..	..	..	..	..
Nagpoor, averages of 3 years	10 10	3 9 to 5 11	13 1	..	12 2	8	12 7	..	9 1$\frac{3}{4}$
Goojrat, averages of one year of scarcity	17 11	4 3	28 0	..	..	13 5	16 11	..	..
Hushungabad, averages of 16 years	10 8$\frac{3}{4}$	4 1$\frac{1}{2}$	7 11	..	..	..	..	..	..
London, 16th June, 1847	92 2	34 0 20 6 35 0 15 0	..	..	58 6	..	..	46 0 53 0 35 0 to 46 0	1 9 to 2 4$\frac{1}{2}$
Bombay, 1845	..	..	..	..	..	..	..	..	2 5$\frac{1}{4}$
Cuttack	..	..	..	..	..	..	..	..	4

I annex Messrs. Nicol's invoice of salt from Bombay, and for record and comparison add the contract prices of the supplies to the East India Company's Military College at Addiscombe*.

* Since the above was written Lieut. Burke, of the Bombay Engineers, in an Official Report to Government, describes a superficial deposit of good salt upon the

It now remains to consider whether the prices given of the cerealia in India offer sufficient inducement to the speculator, in seasons of scarcity in Europe, to look to India for supplies. *Primâ facie* the case is conclusive from the comparatively remarkable cheapness of grain and pulse in India; but the element of the cost of transit from India to England must now be taken into consideration; and this will be best done by putting it into juxtaposition with the cost of the freight of wheat from the most distant sources of supply in Europe, namely, Odessa and Alexandria. The following statement is from the information of a gentleman in Mark Lane, of great experience in the corn trade. Another consideration also is the loss occasioned by the destruction of the grain by weevils in transit.

"The price of fine Polish Odessa red wheat at Odessa, free on board, in ordinary years is from 25*s.* to 32*s.* per quarter. This corn weighs from 60½ to 61½ lbs. per bushel. Freights from Odessa to London are from 6*s.* 6*d.* to 8*s.* 6*d.* or 9*s.* per quarter. The ordinary duration of the voyage is two months. This year (1847) some vessels have been four months on the passage, and some only six weeks.

"At Alexandria the price in ordinary years is from 18*s.* to 25*s.* per quarter, free on board; weight 56 to 59 lbs. per bushel; freight 6*s.* to 7*s.* per quarter. The duration of the voyage much the same as from Odessa, the principal detention being at the Gut of Gibraltar.

"The prices would doubtless be brought down by plentiful harvests at home, and free access to all the world for wheat.

"It is believed that the weevil is bred within the grains of the wheat, the egg being deposited at some period during the formation of the grain; for the insect has often been found in the middle of grains which were on the outside perfectly sound. After the insect has eaten its way out of its native grain, no doubt it proceeds to attack others. It has also been seen in flour brought from India in a metal canister hermetically sealed.

"That the length of the voyage does not produce the weevil is proved by the fact that cargoes of wheat come from Australia perfectly free from it and in the finest possible condition, although often nine months on board; and the wheats of Australia fetch the very highest prices in the English markets.

"The wheats of Poland brought from Odessa are rarely infected with weevil, so also those from the ports of the Baltic. When it occurs in these it is to be traced to mismanagement, such as storing the grain in foul warehouses, &c.

"But the wheats from Turkey, Egypt, the Italian States, and Spain, are almost invariably attacked with weevils. In some cases of great neglect the insect has eaten half the weight of the grain.

"Wheats from the Baltic, when they arrive 'out of condition,' are hot and moist. The heat seems to arise from a vegetable fermentation occasioned by the damp state in which the grain must have been gathered and put into bulk. But those from the Mediterranean when

Cutch frontier of Scinde near Lucput Bunder, capable of supplying one hundred millions of people for above 1600 years at 20 lbs. per head per annum. This salt could be delivered at Bombay at 5*s.* per ton, while Cheshire salt put on board ship at Liverpool, is 12*s.* per ton.

hot (and they are *very* hot,) are dry. The heat is dissipated at once by the mere act of separation in the process of unloading, but it immediately returns on the grain lying again in bulk. It apparently arises from the quantity of animal life in the grain.

"When grain is received in the last-mentioned state it is put into conical heaps. The weevil always seeks the top; in due time, therefore, the top of each cone is taken off, and with it the greater part of the weevil. This process and the previous ravages of the insect of course destroy much valuable grain.

"From comparisons of the wheats grown in different countries it is inferred that the weevil is produced most plentifully, if not exclusively, in wheats grown in a climate which is unduly dry.

"Supposing the above view of the origin of the weevil to be accurate, it is not believed that the substitution of threshing-machines for the bullocks and earthern floors used in India would remedy this evil, although they would improve the article in other respects; and it is also thought that insect life, while in the egg, will endure without destruction any heat to which the grain can be safely subjected.

"American wheats, of which till this year, 1847, little has been imported, do not stand high in the estimation of English millers; they do not like the soil on which they are grown. Little has been done with them in ordinary years to supply trustworthy facts as to costs and freights.

"Indian wheats, if they can be brought over in good condition, are likely to be much approved."

Such are the opinions of a trustworthy and experienced person; and if the lowest price stated of Odessa wheat be taken, 25*s.* per quarter, and the lowest rate of freight, 6*s.* 6*d.* per quarter, then a ton of wheat would be introduced into England at a cost of 116*s.* 8*d.* for the cost price of the wheat, and 30*s.* 3*d.* for freight, making a total cost per ton of 146*s.* 11*d.* Freights from India vary excessively; but assuming a very high freight of £5, or 100*s.* per ton, and taking the average of all the averages of the price of wheat in the preceding tables, name 13*s.* 1*d.* per quarter, or 61*s.* per ton, then the cost of a ton of Indian wheat landed in England would be 161*s.*, and in ordinary seasons it would not be worth a speculator's while to import it from India. But with respect to other grains, some of which are three or four times cheaper than wheat, the same objection would not exist, and they might be imported to a great profit, even in ordinary seasons, could a taste for them be induced. But in seasons of scarcity like that of the past year, when the price of wheat has varied in the London market from 57*s.* per quarter, (266*s.* per ton, in November, 1846,) to 102*s.* per quarter, (476*s.* per ton, on January 1st, 1847,) then India may be looked to with confidence for a supply, rendering large profits to the importer; India having the advantage also of ripening its grain crops in January and February, five months before those of Europe are available. It may be objected that a larger demand upon India would greatly raise prices, and probably permanently so; but my reply to this objection is, that about two-fifths of the whole fertile soil of India are at present untilled, and would necessarily be brought into cultivation to meet an increased demand for cereal supplies.

TABLE I.

Annual Average of Local Seers of Grain per Rupee of Two Shillings at Seven Localities in the Collectorates of the Deccan, from the Year 1827 *to* 1845, *both inclusive.*

	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845
WHEAT.																			
Sewnere	22	32	27	28	28	21½	23	28	32	32	44	34½	26	28½	33	24½	32	26	13
Brahmunwaree	23	32	26	30	26	13	23½	29	25	32	36	28½	22½	23	23	31	35	24½	12½
Paubul	30	32	23	22	32	16½	16½	32	21½	25	23	26	22	20	20	24	24	20	13½
Poorundhur ..	25	26½	26½	24	28	22½	22½	21½	25	27	31½	21	20½	25	23	29	32	24	16
Indapoor	21	30	23½	25	24	17	16	22½	25	30	34	21	21	25	29	25	24	25	14½
Kulus	24	22½	30	30	28	24	17	30	28	36	42	36	23	38	29	20	25	25	13
Mawul	..	..	..	..	21½	16½	18½	22	26	30	26	30	18	20	24	23	30	20	12
RICE.																			
Sewnere	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Brahmunwaree	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paubul	19	21	17	23	16	12	13	22	22	16	16	15	16	14	11	16	16	18	13
Poorundhur ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Indapoor	9	10½	10	9½	9½	9	10	12	10½	11½	9½	9½	10	13	13	13	12	12	8½
Kulus	11	10	9	10	10	11	13	11	15	14	15	13	14	13	14	12	14	15	12
Mawul	..	..	..	24	22	24	17½	24	22	18	24	23	15	19	21	21	22	19	..
GRAM.																			
Sewnere	29	40	37	29	26	32	24	30	32	40	42	34½	18	28½	34	36	37	25	12
Brahmunwaree	28½	36	28	28	21½	17	23½	26½	28	34	36	25½	20	24	35	31	36½	24½	12
Paubul	24	36	29	18½	19	13½	14	16	20	30	26	33	20	29	20	24	24	20	13
Poorundhur ..	23	27½	22½	22½	24	20½	21½	19½	23½	32	32½	21	16½	24½	20	32	32	24	13½
Indapoor	24	22	29	25	13	13½	18	20	19	42	34	18	19	17	28	25	30	24	12
Kulus	18	18	14	16	15	18	19	18	15	16	20	22	24	24	30	31	22	26	12
Mawul	..	..	..	22	18	19½	18	22	26	33	28	25	16	17	24	22	31	23	12
BAJRA.																			
Sewnere	27½	42	26	31½	33	22	36	32	32	34	40	21½	32	39	32	36	32	26	16
Brahmunwaree	26	36	30½	37	31	20½	34½	34	33½	29	40	25	31	36	31½	38	36½	25½	17
Paubul	33	46	44	44	40	18	22	40	37	32	38	34	32	33	32	37	37	24	16
Poorundhur ..	32	37½	34	26	30	22½	32½	30½	30	32	31½	27½	27½	33	29½	41	40	28½	17
Indapoor	30	54	42	39	32	18	38	42	40	44	58	29	38	46	44	54	36	25	15½
Kulus	32	64	40	36	44	25	35	56	36	44	54	34	44	48	48	40	54	29	17
Mawul	..	..	..	31½	27	20	18½	26½	28	28	27	30	20	28½	23	28	34	22	..
JOWAREE.																			
Sewnere	32	44	..	32	40	36	39	36	..	32	34	38	36	38	43	44	48	30	18½
Brahmunwaree	30	34	31½	44	38	20½	44½	48	40½	33	54	34	36	38	34	44	48	28½	17½
Paubul	44	48	48	40	38	23	24	44	39	36	40	46	36	36	40	44	44	28	19
Poorundhur ..	36	40	36	32	34	27½	38½	34½	32½	36	41½	29½	30½	36	35	50	50	32½	19½
Indapoor	38	56	46	42	40	21	44	46	46	62	60	42	50	48	62	76	50	29	17
Kulus	36	80	56	60	56	26	52	56	52	56	72	52	46	66	52	56	80	30	20
Mawul	..	..	..	40	33	33	31	36	34	32	37	25	20	32	38	38	37	28	..

TABLE II.

Average Prices of Bread Stuffs, Rice, and Gram at Seven Markets in the Collectorates of the Deccan, from the Years 1827 *to* 1845, *both inclusive; together with the Weight Avoirdupois for Two Shillings, and the Price per Quarter English.*

	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	Average Seers.	Avoirdupois.	Prices per Quarter.
																					lbs. oz.	*s. d.*
Wheat	$29\frac{4}{8}$	$36\frac{1}{8}$	$31\frac{5}{8}$	$34\frac{3}{8}$	$32\frac{5}{7}$	$22\frac{4}{7}$	$23\frac{6}{7}$	$33\frac{4}{7}$	32	$36\frac{3}{7}$	42	$34\frac{4}{7}$	$26\frac{5}{7}$	$31\frac{2}{7}$	$32\frac{3}{7}$	$32\frac{5}{7}$	$35\frac{3}{7}$	$28\frac{5}{7}$	$16\frac{6}{7}$	$31\frac{5}{19}$	64 5	14 11
Rice	$15\frac{5}{8}$	17	$14\frac{1}{3}$	$20\frac{1}{4}$	$17\frac{3}{4}$	17	$16\frac{1}{4}$	$20\frac{1}{4}$	$21\frac{1}{3}$	$18\frac{3}{4}$	$18\frac{3}{4}$	$18\frac{3}{4}$	$16\frac{3}{4}$	18	18	$19\frac{1}{4}$	$19\frac{3}{7}$	$19\frac{2}{4}$	$13\frac{3}{8}$	$17\frac{17}{19}$	36 13	0 $\frac{7}{10}$ per lb. 6 $2\frac{1}{2}$ per cwt.
Gram	30	$36\frac{4}{8}$	$32\frac{4}{8}$	$28\frac{1}{7}$	$23\frac{6}{7}$	$23\frac{3}{7}$	$24\frac{1}{7}$	$26\frac{5}{7}$	$28\frac{3}{7}$	$30\frac{4}{7}$	$38\frac{4}{7}$	$31\frac{3}{7}$	$23\frac{2}{7}$	$27\frac{1}{7}$	$33\frac{4}{7}$	34	$37\frac{1}{7}$	$29\frac{1}{7}$	15	$29\frac{12}{19}$	60 5	15 11
Bajra	$34\frac{5}{8}$	$56\frac{5}{8}$	$43\frac{5}{8}$	$42\frac{2}{7}$	$41\frac{1}{7}$	$25\frac{3}{7}$	$37\frac{5}{7}$	$45\frac{1}{7}$	41	$42\frac{1}{7}$	$50\frac{3}{7}$	$35\frac{1}{7}$	$39\frac{2}{7}$	46	$41\frac{6}{7}$	$46\frac{3}{7}$	47	$31\frac{2}{7}$	20	$40\frac{7}{19}$	82 10	11 7
Jowaree	$44\frac{1}{8}$	$66\frac{3}{8}$	$52\frac{4}{8}$	$51\frac{1}{8}$	$48\frac{6}{7}$	$32\frac{5}{7}$	$47\frac{3}{7}$	$52\frac{2}{7}$	$42\frac{3}{7}$	$50\frac{1}{7}$	$60\frac{5}{7}$	$46\frac{5}{7}$	$45\frac{3}{7}$	$51\frac{3}{7}$	$53\frac{2}{7}$	$61\frac{4}{7}$	$62\frac{3}{7}$	$35\frac{6}{7}$	23	$48\frac{16}{19}$	100 8	9 6

The Seers are reduced from the Local Seers in Table I. to Indian Seers of 14,400 grains avoirdupois each.

Extract from a Letter of Colonel Sleeman to J. Chapman, Esq., dated Jhansee, 24th July, 1846.

"A Memorandum of Prices of Grain, &c., is inclosed. The prices of grain in the Saugor districts is influenced chiefly by the external demand from Khandeish (S.W.), Nagpore (S.), and Bundlecund (North). In the Nerbudda valley, districts of Jubbulpore, Nursingpore, and Hoshungabad, the price in 1845 varied from 45 seers, wheat and gram, the rupee, (Company's rupees, and 80 to the seer,) to 65; but in the beginning of 1846 the price of wheat and gram rose to 13 seers only for the rupee in Hoshungabad from the increased demand from Indore and Khandeish. The harvests have been even better than ordinary, and promised to be so when prices rose; and had not the crops in Khandeish failed the prices must have fallen from 60 to 80 or 100 seers the rupee, for gram, and from 55 to 75, or 95, wheat. Wheat generally sells about 5 seers the rupee dearer than gram when both are cheap; the difference lessens as prices rise generally, and sometimes gram sells even dearer than wheat."

TABLE III.—*Average Prices of Grain in the Saugor and Nerbudda Territories for Three Years, sold on Company's rupees, from* 1843.

	1843.						1844.						1845.						1846*.					
	Wheat.			Gram.			Rice.			Wheat.			Gram.			Rice.			Wheat.			Gram.			Rice.		
	M.	S.	CH.	M.	S.	CH.	M.	S.	CH.	M.	S.	CH.	M.	S.	CH.	M.	S.	CH.	M.	S.	CH.	M.	S.	CH.	M.	S.	CH.
Saugor	1	29	13½	1	27	7	....			1	26	7½	1	22	1	....			1	1	15	1	2	1½	....			0	26	4	0	27	8	....		
Dumoh	1	23	6	1	38	2	....			1	27	10	1	30	6½	....			1	0	13	1	5	7½	....			0	26	0	0	30	0	....		
Jubulpoor	1	34	13¼	1	29	13	0	26	7½	2	9	9½	2	29	13	0	24	9	1	13	12¼	1	26	15	0	21	12¼	0	36	7	1	3	5	0	21	4
Seonee	1	34	9¼	1	35	11½	0	35	6	1	39	14½	1	28	4	0	32	13½	0	36	1¾	0	36	5¾	0	23	8¼	0	32	13	0	32	13	0	18	13
Nursingpore	1	29	6¾	1	11	6½	0	25	0	2	7	1	2	14	14¾	0	24	1¼	1	5	7½	1	11	13¼	0	29	5¼	0	31	10	1	5	10	0	16	6
Hoshungabad	1	26	8¼	1	12	10¼	0	23	11¾	1	37	0	1	37	2¼	0	20	4	1	4	14½	1	5	1	0	16	1	0	24	10	0	23	0	0	14	0
Baitool	2	1	1½	1	19	10¼	0	28	11½	1	37	8½	1	29	8	0	22	4½	0	36	12	0	37	14½	0	17	11½	0	21	0	0	21	0	0	14	0

* This was in the beginning of the year. Prices rose afterwards 50 per cent from scarcity.

The maund is of 40 seers of 80 Company's rupees each, = 82⅔ lbs. avoirdupois.

The rupee used in Saugor and Dumoh is the Company's; that current in all the other districts is the Nagpore rupee; but the rates here given are for the Company's rupee in all the districts.

(Signed) W. H. SLEEMAN.

Table III*.

Reduced *Average Statement of Prices of Grain in the Saugor and Nerbudda Territories, beginning* 1843. *From a Table, No. III., by Colonel Sleeman, expressed in Maunds, Seers, and Chittacks, per Company's Rupee; the values given here in Pence per Ton.*

Names of Districts.	Price per Quarter English of Wheat in 1843.	1843.			1844.			1845.			1846*.		
		Wheat.	Gram.	Rice.	Wheat.	Gram.	Rice.	Wheat.	Gram.	Rice.	Wheat.	Gram.	Rice.
	s. d.	Pence per Ton.	Pence per Ton.	Pence per Ton.	Pence per Ton.	Pence per Ton.	Pence per Ton.	Pence per Ton.	Pence per Ton.	Pence per Ton.	Pence per Ton.	Pence per Ton.	Pence per Ton.
Saugor	6 6	358·578	371·373	....	376·785	403·542	....	597·185	594·968	....	954·074	910·707	....
Dumoh	6 8	395·178	320·569	....	370·343	355·430	....	613·646	551·126	....	963·248	834·815	....
Jubulpoor	5 10	334·693	358·739	946·172	279·533	228·065	1019·621	465·808	374·047	1151·137	687·326	578·227	1178·562
Seonee	5 11	335·815	330·756	707·970	313·423	366·851	762·533	693·571	688·803	1065·013	736·259	763·259	1331·265
Nursingpore	6 5	360·759	487·177	1001·777	287·660	263·857	1040·109	550·805	483·221	853·939	791·919	548·919	1529·434
Hoshungabad....	6 8	376·518	475·761	1050·297	325·253	324·660	1237·374	557·705	555·771	1559·190	1017·033	1088·885	1788·889
Baitool	5 6	308·843	419·921	872·059	323·024	360·353	1097·839	681·482	660·694	1413·441	1192·591	1192·590	1788·889
Average price per ton in pence	6 4	353·000	395·000	916·000	325·000	329·000	1031·000	594·000	558·000	1208·000	....	....	....

* This was in the beginning of the year. Prices rose afterwards 50 per cent from scarcity.

TABLE III**.

Statement (in Pence per Ton) of the Average Price of Wheat in the Districts of the Saugor and Nerbudda Territories, from the Year 1831 *to* 1840, A.D. *Reduced from the Statement of the Commissioner, dated 6th December,* 1841.

Names of Districts.	Rate per Ton in Pence. 30th May, 1831.	Rate per Ton in Pence. 30th May, 1832.	Rate per Ton in Pence. 30th May, 1833.	Rate per Ton in Pence. 30th May, 1834	Rate per Ton in Pence. 30th May, 1835.	Rate per Ton in Pence. 30th May, 1836.	Rate per Ton in Pence. 30th May, 1837.	Rate per Ton in Pence. 30th May, 1838.	Rate per Ton in Pence. 30th May, 1839.	Rate per Ton in Pence. 30th May, 1840.
Saugor	938·433	1138·383	1006·812	yr. of famine	911·743	716·196	631·041	1022·222	909·673	781·875
Dumoh	683·807	710·480	750·395	927·578	770·579	676·877	676·877	1001·777	945·073	945·073
Jubulpoor	782·638	1473·201	663·117	1192·592	758·922	659·064	715·555	834·815	715·555	782·638
Seonee	560·632	657·972	919·062	1053·123	799·423	714·280	602·800	657·982	471·980	545·928
Hoshungabad.....	912·781	963·247	1340·170	1046·243	1046·243	554·234	603·480	676·878	715·555	681·481
Baitool	451·760	843·602	yr. of famine	831·35	874·948	441·312	481·624	405·168	604·390	574·908
Pence per Ton, Average	721·6	964·5	935·9	1010·000	860·000	627·000	618·5	766·5	727·000	719·000

The average of the whole was 795 pence per ton, or 10*s.* 6*d.* per quarter.

TABLE IV.

Price Current of Wheat, Gram (Chenna), and Rice, as by the Nerikh Namehs, kept in the Office of the Principal Assistant Agent of the Governor-General.—Hoshungabad.

Reduced from the original table sent to me by Colonel Ouseley, at the rate of 444·34 lbs. avoirdupois per Manee, and 19¾ pence per Nagpore rupee.

J. CHAPMAN.

Years.	November, or Sowing Time.			June, or Storing Time after Harvest.		
	Pence per Ton.			Pence per Ton.		
	Wheat.	Gram.	Rice.	Wheat.	Gram.	Rice.
	d.	*d.*	*d.*	*d.*	*d.*	*d.*
1822–23	661·159	612·415	1144·972	497·814	398·251	1194·753
1824	429·364	298·688	696·939	336·024	273·793	846·283
1825	441·810	317·356	1527·666	322·023	217·793	1508·998
1826	280·016	199·125	790·279	264·463	196·014	936·512
1827	311·134	238·017	908·510	466·700	379·583	1040·742
1828	448·032	454·255	821·393	406·548	311·134	954·143
1829	405·511	331·876	772·648	541·372	336·024	790·279
1830	705·236	491·591	962·440	392·028	348·470	1059·928
1831	320·467	317·356	772·648	423·142	421·067	920·955
1832	414·845	376·472	759·166	1062·003	514·408	1028·815
1833*....	1071·337	575·597	1086·894	1294·316	696·939	1609·598
1834†....	1335·800	829·690	1539·074	766·944	588·042	1611.672
1835	796·502	597·377	1057·854	908·510	659·604	1213·421
1836	725·979	538·780	902·288	502·481	369·212	957·254
1837	647·936	449·588	964·514	535·798	365·063	925·104
1838	583·894	460·478	1077·300	572·456	442·458	1140·823
Average	598·000	443·000	986·000			

The fluctuations are entirely owing to good and bad harvests.

* No rain in 1833. † Famine prices.

Memorandum.

"The hire of a loaded cart, carrying 6½ or 7 maunds (576 lbs. avoirdupois), from Bombay to Nagpore, or from Nagpore to Bombay, is 50 rupees (£5, or £4 2*s.* 3*d.* Nagpore currency), it will travel 6 or 7 coss (12 to 14 miles) per diem, and arrives in 40 days. A return hackery (cart) going back empty will make the journey in 28 or 30 days.

"The hire of a loaded bullock, carrying 1 maund (82⅔ lbs.), is 7 rupees (or 14 shillings, or 11*s.* 6½*d.*), for going and returning from Nagpore to Bombay, it will travel 5 coss (10 miles) per diem."

TABLE V.—*List of Average Rates of Grain, &c., at Nagpore, during the Years* 1843, 1844, *and* 1845.

GRAIN.	1843. Rate per Rupee.	1844. Rate per Rupee.	1845. Rate per Rupee.	REMARKS.
	Seers.	Seers.	Seers.	
Wheat	55	46	29½	80 rupees weight a seer, and 200 seers make one khundee, containing 160 paillies, and 1¼ seers make one paillie.
Chenna, (*Cicer arietinum*)	40	38½	28½	
Jowaree, (*Holcus sorghum*)	62½	58¾	43	
Moong, (*Phaseolus moong*)	40	43¼	28½	
Mussoor, (*Erum lens*)	50	56¾	31¾	
Buttana, (*Pisum sativum*)	40	42¾	33	
Bajra, (*Panicum spicatum*)	40	38¾	31	
RICE, of different sorts.				
Ramkail, ...4th sort	35	28	24	
Pissoor, ...3rd ,,	30	24¾	21¾	
Chuttree, ...2nd ,,	22½	21	19	
Kallee Kumode, 1st ,,	20	18¾	17¼	
Good Rice, for Gentlemen	16	15¼	13¾	
DHALL, of different sorts.				
Toor Dhall, split peas, (*Cytisus cajan*)	35	29½	23½	
Moong, ditto, (split)	40	35¼	25½	
Mussoor, ,, ,,	40	39¼	26¼	
Chenna, ,, ,,	30	26¾	20	

The fluctuation in the prices of grain is caused by the variable fall of rain in the Monsoon.

Nagpore,
30th July, 1846.

(Signed) ALEX. SPIERS,
Resident.

TABLE VI.—*Statement of the Prices of the principal Edible Grains shown in the number of Indian Seers per the Rupee in the Bazars of Goojrat, and in Tanna, Candeish, and Colaba, for the period ending 15th August, 1846. The period being one in which the Monsoon failed, and scarcity resulted.*

ZILLAH.	Rice.						Wheat.						Jowaree.						Bajra.						Gram.						REMARKS.
	Average.		Lowest.		Highest.		Average.		Lowest.		Highest.		Average.		Lowest.		Highest.		Average.		Lowest.		Highest.		Average.		Lowest.		Highest.		
	S.	T.	S.	T.	S.	T.	S.	T.	S.	T.	S.	T.	S.	T.	S.	T.	S.	T.	S.	T.	S.	T.	S.	T.	S.	T.	S.	T.	S.	T.	
Ahmedabad	25	57	30	60	21	1	27	6	35	70	24	0	34	78	46	10	26	52	27	39	35	70	21	1	16	72	25	50	12	0	Rice, the average of 11 Markets. The rest ,, 14 ,, The whole of the second quality used for general consumption.
Khaira.....	16	63	20	0	14	40	22	53	25	0	21	0	33	50	44	0	28	0	30	60	32	40	29	0	16	46	20	0	15	0	Rice, the average of 6 Markets. Gram ,, 7 ,, The rest ,, 8 ,, Sootursal rice and Wanjea wheat are given in this Zillah.
Broach.....	27	16	34	40	21	40	12	68	14	20	11	20	27	0	29	0	24	0	23	4	26	0	21	0	11	72	13	20	11	0	The average of 5 Markets.
Surat	21	18	24	0	18	40	13	77	15	60	11	40	25	76	29	60	22	0	20	0	21	60	14	60	13	25	15	20	11	0	Bajra, the average of 8 Markets. Jowaree ,, 9 ,, Gram ,, 11 ,, The rest ,, 12 ,, Wadea rice is given, also the second quality of grain.
Tanna	18	65	20	72	17	26	12	51	16	16	11	20	17	44	17	44	17	44	17	10	18	0	15	16	12	31	14	35	11	20	Jowaree the average of 1 Market. The rest of ,, 5 ,, Coarse rice is given in this Zillah.
Candeish	12	58	20	0	10	9	18	75	23	0	14	36	29	23	36	54	22	0	25	14	33	0	20	54	16	53	20	0	13	36	The average of 17 Markets. The whole of the second, or quality used for general consumption.
Colaba.....	19	26	20	12	18	41	11	47	12	79	10	15	....		....		....		....		....		....		12	39	13	47	11	31	The average of 2 Markets.

Revenue Commissioners' Office, Poona, 9th September, 1846.

The Seer S. is of 14,400 grains Avoirdupois and the Tolla T. is of 180 grains.

TABLE VII.—*Price Current of Grain, Provisions, &c., at the*

Stations.	Sicca weight per Seer.	Wheat.	Rice 1st Sort.	Rice 3rd Sort.	Gram 1st Sort.	Gram 2nd Sort.	Barley.	Dhall.	Salt 1st Sort.	Salt 2nd Sort.
		Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee	Pr Rpee.
		M. S. C.	M. S. C.	M. S. C.	M. S. C.	M. S. C.	M. S. C.	M. S. C.	M. S. C.	M. S. C.
Presidency	80	..	0 10 0	1 4 0	0 30 7¾	..	..	..	0 2 13	0 8 10¾
Cuttack	80	..	..	..	..	..	..	..	0 24 0	..
Berhampore	80	0 30 0	0 16 0	0 27 8	0 32 0	0 33 0	0 33 8	0 28 0	0 7 11	0 8 0
Dacca	80½	0 28 2	0 30 0	0 35 0	0 30 0	0 32 0	..	0 23 8	0 8 0	0 8 8
Chittagong	80	0 33 0	0 40 0	1 10 0	0 28 0	0 30 0	0 36 0	..	0 15 0	..
Assam	80	..	..	1 0 0	..	..	..	0 20 0	0 6 8	0 6 8
Chirrapoonjie	80	..	0 30 0	1 0 0	0 15 0	..	..	..	..	..
Dinapore	80	0 29 14½	0 13 0	2 27 12	0 35 6	..	0 38 12	..	0 7 8	0 7 12
Hazareebaugh	80	0 22 0	0 15 0	0 22 0	0 20 0	..	..	..	0 3 8	0 4 0
Dorundah	80	0 17 6	0 16 0	0 20 0	0 17 0	..	..	0 19 10	0 5 0	..
Benares	80	0 26 0	0 13 3	0 22 6	0 32 0	0 33 0	0 33 0	0 18 0	0 6 9	0 6 14
Secrole	80	0 24 0	0 11 0	0 20 0	0 29 0	0 30 0	0 30 0	0 17 0	0 6 4	0 8 4
Mirzapore	80	0 27 0	0 15 0	0 23 0	0 30 0	0 32 0	0 34 0	0 19 0	0 6 12	0 9 8
Chunar	80	0 25 0	0 13 0	0 21 14	0 32 0	0 33 0	0 32 0	0 18 0	0 6 4	0 9 0
Buxar	80	0 24 8	0 12 0	0 17 0	0 32 0	..	0 31 0	..	0 4 12	0 7 0
Goruckpore	82	0 29 4	0 16 4	0 24 6	0 39 0	1 0 10	1 2 4	0 21 2	0 7 5	0 8 2
Ghazeepore	82	0 25 0	0 12 8	..	0 30 0	0 32 8	0 32 8	0 16 4	0 9 1	0 9 6
Juanpore	96	0 17 8	0 9 0	0 14 0	0 21 0	0 22 0	0 24 0	0 14 0	0 4 0	0 6 0
Allahabad	107	0 20 0	0 11 0	0 15 0	0 26 0	0 27 0	0 27 0	0 16 0	0 6 0	0 10 0
Sultaunpore	80	0 22 8	0 15 2	0 18 4	0 26 2	..	0 28 0	0 17 5	0 5 8	0 20 0
Cawnpore	80	0 28 0	0 7 0	0 16 8	0 31 6	0 32 6	1 0 10	0 23 1	0 8 8	0 11 5
Lucknow	80	0 20 13	0 10 10	0 17 0	0 25 12	..	0 30 2	0 16 8	0 6 0	0 8 8
Futty Ghur	80	0 26 0	0 10 8	0 16 12	0 28 0	0 29 0	0 37 1	0 17 11	0 8 4	0 10 8
Seetapore	80	0 24 15	0 9 0	0 18 0	0 30 5	0 34 9	1 0 0	0 20 0	0 5 0	0 8 8
Meerut	80	0 32 15	0 10 0	0 12 8	0 30 14	0 32 14	1 8 0	0 24 0	0 10 8	0 14 8
Delhie	80	0 30 4	0 6 0	0 16 0	0 31 1	0 32 1	1 2 1	0 21 0	0 10 8	..
Landour	80	0 25 0	0 9 0	0 14 0	0 23 0	0 25 0	0 34 0	0 21 0	0 5 8	0 7 8
Barrelly	80	0 36 8	0 9 10	..	0 37 15	0 39 6	1 16 4	0 24 0	0 8 7	0 12 0
Mooradabad	80	..	..	..	0 38 9	0 39 3	..	..	..	..
Shajehanpore	106	0 34 1	0 16 4	..	0 38 4	1 0 12	..	..	..	..
Hansee	84	0 24 14	0 8 0	0 12 0	0 37 9	0 38 9	0 33 13	0 23 3	0 15 0	0 17 0
Almorah	80	0 22 0	0 10 0	0 20 0	0 15 0	..	0 24 0	0 12 0	0 5 8	0 7 0
Lohoo Ghaut	80	0 22 1	0 14 8	..	..	..	1 0 0	0 19 1	0 5 8	0 6 12
Agra	80	0 30 8	0 9 0	0 11 0	0 31 6	0 32 6	1 1 3	0 24 9	0 9 0	0 9 8
Muttra	80	0 32 0	0 8 0	0 13 0	0 35 1	0 36 1	1 4 0	0 27 8	0 10 0	0 10 8
Ally Ghur	80	0 36 12	0 8 0	0 22 0	0 33 0	0 33 8	..	0 22 10	0 9 4	0 14 0
Mynpooree	80	0 29 4	0 9 0	0 18 5	0 31 13	0 32 4	1 2 0	0 19 8	0 8 3	0 12 0
Etawah	80	0 27 15	0 8 0	0 17 0	0 36 4	..	0 38 6	0 23 0	0 8 0	0 11 0
Umballah	80	0 26 6	0 7 0	0 10 0	0 27 11	0 28 11	0 32 13	0 18 0	0 11 5	0 14 0
Hissar	80	0 24 0	0 10 0	..	0 39 4	..	0 28 8	0 24 0	0 16 0	..
Saugor	80	1 0 0	0 10 0	0 18 0	1 0 0	1 2 8	0 28 0	0 17 0	0 10 8	0 11 8
Jubbulpore	80	0 36 7½	0 12 11	0 19 1	1 4 12½	..	..	0 21 0	0 9 4	..
Hoshungabad	80	1 1 10	0 10 2	0 18 4	1 4 8	..	0 22 8	0 15 12	0 10 2	0 11 6
Nowgung	80	0 29 0	0 12 0	0 16 0	0 33 0	..	1 1 0	0 23 0	0 14 4	..
Bandah	80	0 26 0	0 9 0	0 16 0	0 36 15	0 37 7	0 31 0	0 20 0	0 13 0	0 14 0
Nagode	80	0 28 3	0 10 14	0 22 8	0 36 0	..	..	0 16 4½	0 8 11	..
Nusseerabad	84	0 20 8	0 7 0	0 12 0	0 23 12	0 24 12	0 28 5	0 17 8	1 0 0	1 5 0
Neemuch	80	0 20 15	0 5 8	0 10 0	0 20 13	0 21 13	0 25 0	0 14 1	0 23 0	0 28 0
Ferozepore	80	0 23 0	0 8 0	0 12 0	0 37 1	0 38 0	1 0 10	0 17 1	0 9 0	0 16 0
Loodianah	80	0 26 0	0 11 0	0 13 0	0 37 0	0 38 0	0 37 7	0 20 4	0 10 15	0 14 12
Sukkur	80	..	..	..	..	..	..	..	..	..
Head-Quarters' Camp.	80	..	..	..	..	..	..	..	..	..
Gwalior	80	0 25 0	0 9 3	0 13 7	0 25 14	..	0 26 1½	0 18 15	0 16 8	..
Average	..	27¼	12⅛	22	31	..	..	19$\frac{33}{42}$	9⅝	..

NOTE.—An Indian maund is 40 seers, each seer 14,400 grains avoirdupois. A maund therefore

Fort William, Military Board Office, 1st August, 1845.

several Stations of the Bengal Army for the Month of July, 1845.

Ghee.		Bread Loaves.		Best Grass fed.		Fowls.			Milk.	Oil Mustard.	Sugar Candy.	Flour.	Distance from Calcutta in miles.	Remarks.
Cows.	Buffaloes.	1st Sort.	2nd Sort.	Sheep.	Bullocks.	1st Sort.	2nd Sort.	3rd Sort.						
Pr Rpee.	Pr Rpee.	Pr Rpee.		Each.	Each.	Per Rupee.			Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee.		
M. S. C.	M. S. C.	No.	No.	R. A. P.	R. A. P.	No.	No.	No.	M. S. C.	M. S. C.	M. S. C.	M. S. C.		
..	..	28	..	5 2 0	7 10 0	0	0	6	0 13 0	..	0 5 1½	0 16 0	..	
..	..	..	..	..	..	..	..	..	..	0 7 0	..	..	248	S.W.
0 2 5	0 2 8	..	..	..	..	..	..	..	0 18 0	0 5 8	0 3 8	0 18 0	350	S.W.
0 3 0	0 2 0	16	18	..	..	8	12	16	0 20 0	0 6 0	0 3 8	0 12 0	187	N.E.
0 2 8	0 1 14	..	..	..	..	..	..	..	0 22 0	0 5 12	0 3 4	0 16 0	342	S.E.
..	0 1 8	..	..	..	..	..	..	..	..	0 4 0	0 3 0	..	400	N.E.
0 2 0	..	..	..	..	..	..	..	..	0 16 0	..	..	0 6 0	290	N.E.
..	..	14	20	..	..	4	6	8	0 25 0	0 6 6	0 3 8	0 14 0	376	N.W.*
0 3 0	0 3 4	14	15	..	..	12	16	18	0 32 0	..	..	0 11 0	239	N.W.
0 2 10	0 2 10	..	..	..	..	..	..	..	0 30 0	0 4 0	0 2 11	0 9 4	236	N.W.
0 2 5	0 2 12	16	..	0 8 0	..	..	..	..	..	0 7 0	0 3 0	0 12 0	428	N.W.
0 1 4	0 2 10	16	18	1 0 0	..	5	6	10	0 16 0	0 7 12	0 3 5½	0 14 0	424	N.W.
0 2 10	0 2 14	12	14	0 12 0	8 8 0	8	10	12	0 20 0	0 8 0	0 4 8	0 15 0	455	N.W.
0 2 12	0 2 13	21	32	1 0 0	5 0 0	4	6	8	..	0 6 8	0 3 4	0 13 0	433	N.W.
0 2 14	0 2 14	24	..	0 12 0	..	5	7	12	0 26 0	0 6 8	0 3 12	0 15 8	380	N.W.
0 1 14	0 2 10	8	..	1 0 0	..	5	8	..	0 30 0	0 9 6	0 4 1	0 16 8	525	N.W.
0 2 3	0 2 11½	..	..	..	..	4	5	6	0 20 0	0 8 2	0 3 12	0 15 0½	431	N.W.
0 2 2	..	16	..	0 8 0	..	8	12	16	0 16 0	0 6 0	0 4 0	0 11 0	470	N.W.
0 1 10	0 1 14	16	18	0 8 0	2 0 0	4	6	8	0 22 0	0 6 0	0 3 4	0 12 0	498	N.W.
..	0 2 2	..	..	..	..	..	..	..	0 20 0	0 8 0	0 4 0	0 14 8	424	N.W.
..	0 2 5	..	..	..	..	3	4	7	0 18 0	0 7 4	0 3 8	0 19 0	628	N.W.
0 1 14	..	18	19	..	..	2	3	4	0 18 0	0 6 11	0 4 4	0 14 5	619	N.W.
..	0 2 2	..	..	..	..	..	..	..	0 20 0	0 6 0	0 2 12	0 15 0	717	N.W.
..	0 2 0	16	..	1 0 0	..	4	6	8	0 30 0	0 5 15	0 3 0	0 14 0	680	N.W.
0 2 10	0 2 12	25	26	1 8 0	..	2	4	5	0 17 12	0 7 1	0 3 0	0 21 8	906	N.W.
0 2 9	0 2 11	..	..	..	..	..	..	..	0 23 0	0 7 1	0 3 8	0 16 0	900	N.W.
0 2 2	0 2 4	..	..	..	..	..	..	..	0 16 0	0 5 0	0 2 12	0 15 0	930	N.W.
0 2 4	..	16	..	..	..	4	6	9	0 30 0	0 7 1	0 3 10	0 19 3	782	N.W.
..	..	..	..	..	..	..	..	..	..	0 6 5	..	..	842	N.W.
..	..	..	..	..	..	..	..	..	..	0 7 5	..	..	735	N.W.
0 2 15	..	8	10	..	..	4	5	6	0 35 0	0 3 0	..	0 12 0	995	N.W.
0 2 4	0 2 8	12	..	..	..	5	8	..	0 20 0	0 3 8	0 2 8	0 11 0	896	N.W.
0 3 1	..	..	..	..	..	..	..	..	..	..	..	..	806	N.W.
0 2 9	0 2 10	22	..	..	..	4	5	6	0 21 0	0 8 0	0 3 11	0 16 12	796	N.W.
..	0 2 9	20	..	..	..	4	5	6	0 21 6	0 7 4	0 4 0	0 16 0	820	N.W.
0 2 13	0 2 15	8	9	..	..	4	5	7	0 24 0	0 9 4	0 2 12	0 25 0	816	N.W.
0 2 7	..	16	..	..	..	4	5	6	0 28 0	0 8 7	0 3 0	0 19 8	686	N.W.
..	0 2 8	16	..	1 8 0	..	4	5	6	0 20 0	0 8 8	0 3 12	0 10 0	719	N.W.
..	0 2 7	19	20	..	..	3	4	5	0 18 0	0 6 7	0 3 0	0 13 13	990	N.W.
0 3 0	..	..	..	..	..	..	..	..	1 0 0	0 7 4	0 3 0	0 15 0	1,015	N.W.
0 3 0	0 3 0	40	..	1 4 0	..	5	6	7	0 20 0	0 7 8	0 3 4	0 23 0	742	W.
..	0 3 3	..	..	..	..	..	..	..	0 32 0	0 5 4½	..	0 16 0	700	W.
0 2 12	0 3 4	..	..	1 0 0	..	4	6	8	0 25 0	0 4 6	0 2 6	0 21 6	864	W.
..	0 2 13	14	16	..	..	4	8	12	0 22 0	0 6 10½	0 3 0	0 17 0	620	W.
0 2 8	0 2 10	12	12	1 0 0	..	6	7	8	0 20 0	0 6 6	0 3 9	0 14 0	613	W.
0 2 9	..	..	..	..	..	..	..	..	0 19 9	0 4 5½	0 2 11½	0 16 4	..	W.
..	0 2 12	21	..	1 4 0	..	3	4	5	0 17 0	0 5 0	0 2 0	0 13 6	1,018	N.W.
0 2 2	0 2 4	19	20	..	..	3	4	5	0 18 0	0 4 0	0 2 2	0 13 1	1,049	N.W.
0 2 11	0 2 13	20	..	..	..	2	3	4	0 16 0	0 6 15	0 2 12	0 13 1	1,160	N.W.
0 2 4	0 2 6	..	..	..	..	2	3	4	0 20 0	0 8 0	0 3 0	0 15 15	1,100	N.W.
..	..	..	..	..	..	..	..	..	..	..	..	..	1,400	N.W.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	
0 2 5	..	..	..	..	..	4	5	6	0 18 0	0 5 5	0 3 0	0 9 11	782	N.W.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	

Weighs 822½ lbs., a seer 2·057 lbs., each seer of sixteen chetanks of 900 grains each.

W. MACLEAN, *Secretary.*

TABLE VIII.—*Price Current of Grain, Provisions, &c., at the*

Stations.	Sicca weight per Seer.	Wheat.	Rice. 1st Sort.	Rice. 3rd Sort.	Bcot Gram. 1st Sort.	Bcot Gram. 2nd Sort.	Barley.	Dhall.	Salt. 1st Sort.
		Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee.
		M. S. C.	M. S. C.	M. S. C.	M. S. C.	M. S. C.	M. S.. C.	M. S. C.	M. S. C.
Presidency	80	..	0 10 0	0 35 8	0 29 1½	0 32 0	..	..	0 2 13
Cuttack	80	..	..	..	..	..	..	..	..
Berhampore	80	0 31 0	0 25 0	0 29 0	0 43 8	0 29 0	0 44 8	0 35 0	0 7 0
Dacca	80½	0 26 8	0 37 8	0 40 0	0 28 8	0 26 12	..	0 20 0	0 8 0
Chittagong	80	..	0 30 0	0 41 0	..	..	..	0 32 0	..
Assam	80	..	..	0 40 0	..	..	..	0 20 0	0 6 0
Chirrapoonjie	80	..	0 30 0	0 45 0	0 13 4	0 14 0	..	..	0 7 0
Dinapore	80	0 32 10½	0 13 0	0 23 5	0 28 0	0 43 9	0 48 3½	..	0 4 0
Dorundah	80	0 26 0	0 18 0	..	0 20 0	..	..	0 18 0	0 6 0
Benares	80	0 25 8	0 13 0	0 21 0	0 29 8	0 30 8	0 33 0	0 20 0	0 5 8
Secrole	80	0 21 5½	0 19 2¾	0 22 5	0 27 12	0 29 5	0 30 0	0 20 13½	0 7 6
Mirzapore	80	0 26 0	0 15 0	0 22 0	0 30 0	0 31 0	0 33 0	0 22 0	0 6 12
Chunar	80	0 24 0	0 13 0	0 20 2	0 24 0	0 25 0	0 31 0	0 27 0	0 5 8
Buxar	80	0 25 0	0 12 0	0 16 0	0 31 0	0 36 0	0 35 0	..	0 4 12
Ghazeepore	82	0 23 12	0 12 8	..	0 30 0	0 31 4	0 35 0	0 20 0	0 7 10½
Goruckpore	82	0 32 8	0 14 10	0 26 0	0 34 0	0 35 12	0 47 2	0 30 0	0 6 8
Juanpore	96	0 19 0	0 9 0	0 13 0	0 19 0	0 20 0	0 26 0	0 17 0	0 4 8
Allahabad	106	0 21 8	0 12 0	0 19 0	0 30 0	0 30 4	0 30 0	0 18 0	0 5 12
Sultaunpore	80	0 28 2	0 15 0	0 17 13	0 31 4	..	0 31 1	0 23 8	0 5 8
Cawnpore	80	0 26 4	0 7 0	0 16 0	0 34 0	0 35 13	0 35 11	0 24 7	0 7 8
Lucknow	80	0 22 9	0 8 8	0 17 0	0 23 12	0 24 0	0 29 10	0 18 12	0 5 8
Futty Ghur	80	0 28 11	0 10 4	0 12 0	0 33 7	0 34 9	0 38 7	0 21 0	0 7 13
Seetapore	80	0 25 11	0 9 0	0 19 9	0 29 9	0 31 4	0 36 15	0 18 11	0 5 0
Meerut	80	0 28 6	0 8 8	0 12 0	0 29 0	0 30 8	0 36 6	0 24 8	0 9 15
Delhie	80	0 28 0	0 7 0	0 13 0	0 31 5	0 32 2	0 37 12	..	0 10 8
Landour	80	0 18 0	0 8 8	0 13 0	0 16 8	0 18 0	0 22 0	0 18 0	0 4 8
Barelly	80	0 28 8	0 9 10	0 13 3	0 29 4	0 30 4	0 38 15	0 22 13	0 7 9
Mooradabad	80	..	..	..	0 29 5	0 30 0	..	..	..
Shajehanpore	106	0 35 0	..	..	0 34 9	0 36 0	..	..	..
Hansee	84	..	..	..	..	..	..	..	..
Almorah	80	0 21 0	0 11 0	0 19 0	0 16 0	..	0 24 0	0 13 0	0 6 0
Lohoo Ghaut	80	0 22 0	0 13 8	..	..	..	0 30 0	0 17 0	0 5 8
Agra	80	0 28 12	0 9 0	0 11 0	0 34 13	0 35 13	0 39 11	0 29 12	0 9 1
Muttra	80	0 31 9	0 8 0	0 12 0	0 38 7	0 41 0¾	0 44 0	0 28 4	0 10 0
Ally Ghur	80	0 33 8	0 7 0	0 15 2	0 34 0	0 34 8	0 42 0	0 27 0	0 9 4
Mynpooree	80	0 30 0½	0 11 8	0 16 11	0 31 11	0 37 6	0 42 12	0 21 6	0 7 0
Etawah	80	0 26 9	0 8 0	0 13 15	0 35 4	0 39 0	0 39 0	0 23 0	0 7 4
Gwallor	80	0 20 0	0 9 11	0 14 8	0 29 9	..	0 27 2	0 17 0	0 15 15
Umballah	80	0 22 10	0 7 0	0 10 0	0 25 5	0 26 6	0 26 6	0 17 11	0 12 6
Hissar	80	0 22 11	0 10 0	..	0 31 8	..	0 28 0	0 18 0	0 14 0
Sangor	80	0 27 6	0 10 0	0 14 0	0 26 0	0 27 0	0 28 4	0 16 0	0 10 8
Hoshungabad	80	0 23 0	..	0 16 8	0 26 0	..	0 19 0	0 14 0	0 11 0
Nowgung	80	0 22 4	0 15 2	0 17 0	0 31 3	..	0 31 0	0 21 13	0 14 0
Nagode	80	0 22 9½	0 10 14	0 20 11½	0 27 6	0 23 6½	..	0 15 13	0 10 15
Jubbulpore	80	0 29 4	0 11 0	0 14 0	0 33 0	..	..	0 18 12	0 9 0
Mhow	80	0 16 11	0 7 0	0 9 0	0 15 15	0 16 10	0 18 0	0 13 0	0 25 0
Nusseerabad	84	0 19 8	0 7 0	0 10 0	0 22 10	0 23 10	0 28 0	0 14 0	0 40 0
Neemuch	80	0 13 13	0 5 0	0 8 0	0 16 11	0 17 11	0 19 0	0 13 0	0 25 0
Loodianah	80	0 20 0	0 9 9	0 13 9	0 27 5	0 28 5	0 26 5	0 20 0	0 14 0
Ferozepore	80	0 19 4	0 10 0	0 14 0	0 30 6	0 31 6	0 28 0	0 15 13	0 12 15
Jullunder	84	0 19 0	0 10 15	0 14 2	0 26 8	..	..	0 17 15	0 16 0
Kurtarpore	80	0 21 11	0 10 15	0 15 0	0 22 6	..	0 28 2	0 15 15	0 16 6
Nokodur	80	0 19 5	0 10 0	0 12 4	0 28 12	0 25 3	0 15 13	0 15 13	0 14 0
Hooshearpore	80	0 21 8	0 11 0	0 14 0	0 21 10	..	0 25 2	0 16 0	0 14 0
Kote Kangra	80	0 20 0	0 15 8	0 19 0	..	..	0 22 0	0 16 0	0 12 0
Noorpore	80	0 21 0	0 13 0	0 18 0	0 13 0	..	0 30 0	0 16 0	0 18 0

Fort William, Military Board Office,
1st June, 1845.

several Stations of the Bengal Army for the Month of May, 1846.

Salt.	Ghee.		Bread Loaves.		Best Grass fed.		Fowls.			Milk.	Oil Mustard.	Sugar (Cheenee).	Flour.
2nd Sort.	Cows.	Buffaloes.	1st Sort.	2nd Sort.	Sheep.	Bullocks.	1st Sort.	2nd Sort.	3rd Sort.				
Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee.		Each.	Each.	Per Rupee.			Pr Rpee.	Pr Rpee.	Pr Rpee.	Pr Rpee.
M. S. C.	M. S. C.	M. S. C.	No.	No.	R. A. P.	R. A. P.	No.	No	No.	M. S. C.	M. S. C.	M. S. C.	M. S. C.
0 8 5	..	..	24	..	5 2 0	7 10 0	..	..	6	0 13 0	..	0 5 13½	0 16 0
0 24 0	..	..	..	..	..	..	..	..	..	..	0 6 0	..	..
0 8 8	0 2 6	0 2 8	20	22	..	..	3	8	9	0 26 0	0 5 8	0 3 10	0 16 0
0 8 8	0 3 0	0 2 0	16	18	..	..	8	12	16	0 20 0	..	0 3 0	0 14 0
..	0 2 8	0 2 4	..	..	..	..	..	..	..	0 20 0	0 4 8	0 3 0	0 20 0
0 6 0	0 1 8	..	..	..	..	..	..	..	..	..	0 4 0	0 3 0	..
0 8 0	0 2 8	..	..	..	..	..	..	..	..	0 16 0	..	0 3 0	0 7 0
0 7 0	..	..	14	19	..	..	4	6	8	0 25 0	0 6 10½	0 3 8	0 14 0
..	0 2 12	0 2 12	..	..	..	..	..	..	..	0 25 0	0 4 0	0 3 0	0 8 0
0 5 12	0 2 3	0 2 9	16	..	0 8 0	..	..	..	..	0 18 0	0 6 4	0 3 10	0 12 7
0 7 10	0 1 4	0 2 8	18	20	0 8 0	..	10	12	..	0 16 0	0 6 0	0 3 10	0 12 5½
0 9 4	0 2 10	0 2 12	12	14	0 12 0	8 8 0	8	10	12	0 24 0	0 7 0	0 5 0	0 11 0
0 8 8	0 2 13	0 2 14	22	35	..	5 0 0	4	6	8	0 22 0	0 5 8	0 4 0	0 14 0
0 7 4	0 2 12	0 2 12	20	..	0 12 0	..	5	7	12	..	0 5 4	0 4 0	0 14 8
0 7 13	0 2 3	0 2 11½	..	..	..	..	4	5	6	0 20 0	0 6 9	0 4 1	0 13 14
..	0 2 10	0 2 13	..	..	0 15 2½	..	..	..	..	..	0 6 13	0 4 1	0 16 0
0 6 0	0 2 2	..	..	..	..	..	8	12	14	0 16 0	0 6 8	0 3 8	0 12 0
0 8 8	0 1 12	0 2 0	16	18	0 9 7	2 0 0	4	5	6	0 22 0	0 5 12	0 2 12	0 12 8
0 20 0	0 2 0	..	..	..	..	..	..	..	..	0 20 0	0 7 8	0 4 0	0 18 8
0 11 8	..	0 2 12	..	..	..	..	4	5	7	0 18 0	0 7 0	0 3 8	0 18 8
0 8 0	0 2 4	0 2 5	16	18	..	..	2	3	4	0 17 0	0 5 0	0 4 4	0 15 8
0 11 8	..	0 2 14	20	22	..	..	..	..	..	0 20 0	0 7 8	0 3 0	0 16 0
0 8 0	..	0 2 0	16	..	..	..	4	6	8	0 30 0	0 4 10	0 3 8	0 14 0
0 14 0	0 2 11	0 2 13	16	24	1 8 0	..	2	4	5	0 18 10	0 7 7	0 4 0	0 19 0
0 10 12	0 2 9	0 2 10	..	..	..	..	..	..	..	0 26 0	0 6 0	0 2 12	0 15 8
0 8 0	0 2 0	0 2 4	..	..	..	..	..	..	..	0 16 0	0 4 4	0 3 0	0 12 8
0 10 13	0 2 11	0 2 14	16	..	..	..	4	5	8	0 24 0	0 6 2	0 4 3	0 16 13
..	..	..	..	..	..	..	..	..	..	..	0 6 0	..	..
..	..	..	..	..	..	..	..	..	..	..	0 6 7	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
0 8 0	0 2 8	0 2 13	12	..	..	..	20	20	..	0 20 0	0 31 2	0 2 4	0 11 0
0 6 8	0 2 13	..	..	..	..	..	..	..	..	..	..	..	..
..	..	0 3 1	23	28	..	..	5	6	8	0 21 0	0 7 15	0 3 12	0 17 0
..	..	0 2 14	20	20	..	..	4	5	6	0 30 0	0 8 0	0 4 0	0 16 0
0 15 0	0 2 14	0 2 15	16	..	..	..	4	5	7	0 22 4	0 8 4	0 3 5	0 22 12
0 12 13	0 3 0	..	17	..	..	..	4	5	6	0 27 8	0 8 0	0 3 0	0 16 0
0 11 0	..	0 2 14	12	..	1 8 0	..	4	5	6	0 20 0	0 7 12	0 3 12	0 10 0
..	0 2 10	..	..	..	..	..	4	5	6	0 16 0	0 4 12	0 2 3	0 12 6
0 13 8	..	0 2 5	18	19	..	..	3	4	5	0 17 0	0 5 3	0 2 12	0 13 10
..	0 2 14	..	..	..	..	..	..	..	..	..	0 5 14	0 3 4	0 15 0
0 11 8	..	0 2 15	28	..	1 4 0	..	5	6	7	0 20 0	0 3 0	0 2 14	0 17 0
..	0 2 4	0 2 8	..	..	1 0 0	..	4	6	8	0 22 0	0 4 0	0 2 4	0 16 0
..	0 3 3	..	18	21	1 7 0	6 4 9	8	10	12	0 25 0	0 5 9	0 3 0	0 13 0
..	0 2 13½	..	12	..	..	..	..	..	..	0 17 6	0 4 5	0 2 11½	0 13 6
0 9 8	0 2 12	..	20	..	..	..	4	6	12	0 16 0	0 4 12	0 2 12	0 16 0
0 28 0	0 1 12	0 2 3	10	14	..	..	4	4	5	0 18 0	0 7 6	0 2 4	0 10 0
1 5 0	0 2 1	..	19	19½	1 4 0	..	3	4	5	0 18 0	0 5 0	0 2 10	0 14 0
0 28 0	0 1 12	..	15½	16½	..	..	3	4	5	0 18 0	0 4 0	0 2 2	0 9 6
0 24 0	0 2 4	0 2 6	8	10	..	..	2	3	4	0 18 0	0 6 5	0 2 12	0 13 0
0 17 10	0 2 6	0 2 8	18	..	..	..	2	2½	..	0 14 0	0 5 13	0 2 12	0 12 0
..	0 2 3	0 2 4	..	..	..	..	..	..	..	0 16 0	0 7 5	0 2 2	0 11 0
..	..	3 2 4	..	..	..	..	..	..	..	0 15 0	0 6 5	0 3 4	0 10 9
..	0 2 2	..	..	..	1 0 0	..	..	..	..	0 14 0	0 4 0	0 2 8	0 9 15
..	0 2 3	..	..	..	0 12 0	..	4	5	6	0 20 0	0 7 0	0 3 0	0 12 10
0 13 0	0 2 0	0 2 2	..	..	1 0 0	..	..	..	..	0 18 0	0 4 0	0 2 8	0 8 4
..	..	0 2 10	..	..	..	..	..	..	..	0 30 0	0 6 8	0 3 4	0 8 0

W. MACLEAN, *Secretary.*

TABLE IX.

Contract Prices of Supplies to the Military College at Addiscombe from 1836 *to* 1847.

	1836.		1837.		1838.		1839.		1840.		1841.		1842.		1843.		1844.		1845.		1846.		1847.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Beef and Mutton, per lb.	0	7½	0	7½	0	7	0	7¾	0	7⅞	0	7⅞	0	8⅜	0	6⅞	0	6¾	0	6½	0	7¼	0	7¾
Flour, best seconds, per sack of 280 lbs.	30	0	46	0	46	0	61	0	54	0	46	0	52	0	37	0	41	0	35	0	48	0	57	0
Lump Sugar, per cwt.	82	0	82	0	80	0	79	6	85	0	103	6	82	6	78	0	78	0	77	0	65	0	66	0
Moist ditto, ,,	66	0	60	0	64	0	61	9	65	0	80	9	66	0	60	0	62	0	58	0	50	0	49	6
East India Rice ,,	15	6	22	0	16	9	23	6	24	3	24	3	20	0	19	0	19	0	17	6	22	0	24	6
Valentia Raisins ,,	49	0	46	0	41	6	41	6	47	0	42	0	38	0	38	0	42	0	52	0	42	0	45	0
Currants ,,	68	0	80	0	62	0	74	0	84	0	78	6	68	0	60	0	56	0	52	0	56	0	56	6
Congou Tea, per lb.	4	0	4	0	3	11	3	8½	5	5	4	4½	4	2	3	11	3	6	3	4¼	3	2	3	4½
Malt, per qr.	62	0	64	0	59	0	68	0	70	0	63	0	60	0	59	0	63	0	64	0	62	0	88	0
Hops, per cwt.	98	0	92	0	78	0	72	0	66	0	196	0	130	0	94	0	145	0	168	0	155	0	95	0
Mould Candles, per doz.	6	1	6	1	6	3	7	3	6	9	6	9	6	11	6	7	6	0	5	5	5	6	6	5
Dip ,, ,,	5	3	5	4	5	7	6	6	5	11	5	10½	5	10	5	8	5	3	4	10	4	11	5	10
Sperm Oil, per gallon	6	0	6	6	6	10	7	3	8	11	8	9	7	0	6	4½	6	0	6	9	6	6	7	0
Yellow Soap, per cwt.	46	0	46	6	46	6	50	6	46	9	46	9	46	0	45	0	44	0	40	0	40	6	45	9

TABLE X.

EXPORTS OF SALT.						IMPORTS OF SALT.					
Years.	From.	To.	Quantity.	Value.	Cost per Cwt.	Into.	From.	Quantity.	Value.	Cost per Cwt.	Years.
			Cwts.	Rupees.	s. d.			Cwts.	Rupees.	s. d.	
1845–46	Bombay	Calcutta	254,364	40,312	0 3·8	Calcutta	All Parts	713,128	40,42,642	*11 4·05	1844–45
1844–45	Ditto	Ditto	331,778	66,111	0 4·78						
1845–46	Ditto	All Parts, including Calcutta....	390,148	87,750	0 5·39	Malabar	Bombay	323,317	1,15,641	0 8·58	1844–45
1844–45	Ditto	Ditto	410,264	83,235	0 4·87	Canara	Bombay	31,027	8,222	0 6·36	1844–45
1844–45	Madras (Nellore)	Calcutta	234,767	94,667	0 9·68						
1844–45	Madras Presidency	All Parts by Sea	260,013	99,223	0 9·16						
1844–45	Masulipatam, Rajamundry, Guntoor, Canara	By Land to Mysore and the Nizam's Territories	460,537	6,49,894	*2 9·87						

TOTAL IMPORTS BY SEA INTO CALCUTTA DURING THE YEAR 1844–45.

From.	Coast of Malabar.	Ceylon.	Arabian and Persian Gulf.	England.	France.	Mauritius.	Manila.	Total.
Quantity in Cwts.	381,404	25,124	296,249	582	6,233	934	2,602	713,128
Value in Rupees	21,52,020	1,42,915	16,90,231	3,216	34,118	5,088	15,054	40,42,642

* Duty inclusive.

Copy of an Invoice given to J. Chapman, Esq., July, 1846, *by Mr. Smith, of the firm of Nicol and Co., Bombay. The transaction took place in July*, 1845.

	R.	A.	P.
5 rash or 200 tons of salt = 5600 maunds, at 150 rupees per rash	750	0	0
Duty 12 annas per maund	4200	0	0
Carriage hire from Tannah to Bombay	15	2	0
Freight to Calcutta, 350 rupees per rash	1750	0	0
	6715	2	0

The cost of this salt, including carriage, but exclusive of Excise duty, to the purchaser's door, was a decimal more than 4½*d.* per cwt., and *inclusive* of the Excise duty of 12 annas per maund, the price for shipment to Calcutta was 2*s.* 5¾*d.* per cwt., or 49*s.* 8*d.* per ton.

Sir Fay Brand. Royal Asiatic Society

from the Author

STATISTICS

RR-f-660

OF

THE FREE CITY OF FRANKFORT-ON-THE-MAIN.

By LIEUT.-COLONEL W. H. SYKES, F.R.S.

From the Quarterly Journal of the Statistical Society of London,
December, 1844.

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STATISTICS

OF

THE FREE CITY OF FRANKFORT-ON-THE-MAIN.

By LIEUT.-COLONEL W. H. SYKES, F.R.S.

[*Read before the Statistical Section of the British Association at York, September 30th*, 1844.]

I AM not aware that the statistics of a German city, more particularly a free city, are before the public. Independently of the novelty of such statistics, I presume they will furnish matters for comparison with statistical facts from England, either confirmatory of apparent physical or moral laws deduced from series of facts, or exhibiting antagonist matters which may render further research necessary, both in our own and other countries; that all doubts may be removed of the quality and bearing of the data with which the legislator may propose to operate in his benevolent attempts to improve the condition and prospects of society.

I must beg some indulgence for my paper, for I have not any pretensions to the character of a German scholar, and I have laboured under the disadvantage of completing my translations since my return to England without aid; and I may in some instances not have given the perfect sense of my text. My figured statements, however, are I hope free from this drawback, as they are derived from tabulated official or public documents, and cannot be so readily misunderstood as the involved construction of German phraseology. The historical matter, and the notices respecting the public institutions, are derived from a very well got up Manual of Frankfort, by J. H. Ludwig, published in 1843. The statistical tables of educational and literary establishments are taken from the Transactions of the Geographical and Physical Society of Frankfort. The vital statistics are from official sources; and some matters are derived from verbal communications. I should have been glad to have made my acknowledgments publicly to my German friends for their kind aid; but I am not quite satisfied that in the present state of society in Frankfort it would be acceptable to them. I therefore abstain; but they will understand that I am not the less grateful for their kind promotion of my objects.

Although the present paper will embrace the general statistics of Frankfort, yet, as my principal object is the illustration of the vital statistics of the city, I shall treat the other branches in a more cursory manner than their importance and interest would seem to authorise.

Frankfort is seated on the right bank of the Main, in an open sandy plain, about 20 miles above the junction of the Main with the Rhine. Its elevation above the sea is 317 feet only. Like other places with claims to antiquity, little is known of its early history; but it has its fable (and that of Frankfort is quite Oriental) accounting for its foundation. The Franks were in the habit of crossing the river in their excursions, but much higher up. At last they were led to the discovery of the ford near which Frankfort now stands, by observing a *white deer* pass the river: henceforward they passed the river at the same place, whence resulted the name of Frankfort, or Ford of the Franks. Whether Frankfort-on-the-Oder derived its name in a similar manner, my information does not enable me to say. It was probably a hunting seat of the Frank kings, and may have owed its gradual increase to the usual attractions of a royal residence. On the 20th of July, 794, Charlemagne held a church assembly here, and it is supposed that he had previously built St. Mary's Chapel. In the same year the suburb of Sach-

senhausen, on the opposite bank of the Main, was settled by some Saxons who had accompanied the emperor; and to this day the inhabitants consider themselves as of a distinct race from the people of Frankfort. Louis the German, in 843, made Frankfort the principal city of the eastern part of his dominions; and from this period it appears to have increased, but its prosperity was most probably chiefly owing to many of the German emperors choosing to be elected and crowned here. The portraits of such as were crowned at Frankfort are painted in niches in the building called the Emperors' Hall; and it is a somewhat curious coincidence that the last vacant niche in the hall was filled up by the last German emperor, Francis II., who reigned from 1792 to 1806, when Buonaparte dissolved the German empire. The first was Konrad I., the Frank who reigned from 911 to 918. In all there are 44 portraits. The elections of the emperors took place in the open air on a particular spot; and the *armed* crowds indicated their assent by clashing (Klappern) their swords and shields against each other, or shield against shield, and sword against sword; and a spot within Frankfort, not yet wholly covered with buildings, is called the Klapperfeld, or "*Clashing-field*," to this day. Frankfort has been subjected to numerous vicissitudes of capture and recapture, internal commotions, and disastrous and extensive fires; so that there are few vestiges of buildings above 150 years old. In the first quarter of the 18th century 3 fires destroyed above 1000 houses. In the first, on the 14th of January, 1711, above 500, including the Jews' quarter. That in 1719 destroyed 432 houses in 24 hours; and that in 1721 destroyed 150 in the Jews' quarter. A somewhat curious fire was that of burning the English manufactures stolen from the shops in 1810, in compliance with the Berlin decree of Napoleon. Frankfort, like some other Christian cities and states, has distinguished itself for its barbarous, and cruel, and bloody persecution of the Jews at different times. In 1240, 180 were put to death; and some time afterwards continued persecution drove the Jews to such despair, that they set fire to their dwellings, by which half the city was destroyed. In 1349, at the time of the appearance of the plague in Frankfort, in common with other cities of Germany, the Jews were accused of having poisoned the wells, and a band of fanatic monks, aided by a population they had excited, set fire to the dwellings of the Jews, and threw such of those miserable people as fell into their hands into the flames. Such of them as escaped death were *sold*, "body and goods, profit, pleasure, and service," —for such are the terms used,—by the Emperor Charles IV. to the authorities of Frankfort for the sum of 15,000 pounds weight in farthings.* In 1417 these unhappy people were reduced to 2 families; 12 years later they consisted of 6 families: and in 1495 they amounted to 104 souls only. In 1462 they were prevented from building or dwelling near a Christian church; were confined to one narrow locality, which grew into the Juden Gasse, or Jews' Lane, which was not only closed at both ends by gates every evening, but on Sundays and festivals the inhabitants were interdicted from quitting the lane at all, and could only appear abroad at any time in a prescribed garb. In 1614, in a revolt of some of the tradespeople, the Jews were plundered on the charge of usury. The restrictions on them in subsequent times were gradually relaxed, and

* Heller is the term; the twelfth of a penny English.

when the Prince Primate had the city given to him by Napoleon, he endowed the Jews with the privilege of citizens; which privilege was taken from them; when the city was again declared "*free.*" This class of inhabitants now amounts to a seventh or an eighth of the population.

The buildings of Frankfort have a palatial character, that is to say, they are generally large, lofty, and imposing, being occupied in floors, or parts of floors (there being sometimes a double kitchen on each floor), as was the case in Edinburgh formerly. At Frankfort even some of the ambassadors are only tenants in common with other parties. The defects of Frankfort are, the want of foot pavement in the streets, and the town not being lighted by gas, and the defective drainage, which renders the atmosphere of some of the princely buildings a perfect pollution; the noisome effluvia from the cesspools having an unimpeded exit into the passages and chambers, from the want of proper water-closets or traps. It boasts, however, one of the most agreeable promenades in Europe; the former ramparts, ditch, and glacis having been levelled, and the ground thus obtained, surrounding three-fourths of the city, planted with shrubs and flowers, through which there are winding walks, together with a continuous carriage drive between fine trees, from the river on the west, round the skirts of the town, to the river on the east.

Government of the City of Frankfort; its Constitution [*Staatsverfassung*] *and Administration* [*Verwaltung*].

Frankfort is called a free city, and great care is taken in all public lists, official documents, the city seals and stamps, that the word Frankfort be preceded by its adjective "free." In very early periods after its Frankish foundation, the tradespeople and artisans associated themselves in guilds, and made the weight of their associations be felt. Frankfort was not a dependency of any particular prince; and much of municipal matters appear to have been left to the citizens, the oldest being placed at the head of the guilds, and constituting a kind of rath or council. But it was ruled for centuries by an officer of the German emperor, called a Vogt or bailiff, and had to pay a fixed tribute. Henry VII. gave the citizens a charter in 1220. In 1254, William gave them the privilege, confirmed by later emperors, that the city should never be transferred from the protection of the empire (emperor). In 1372, Charles IV. sold the imperial bailiffship over the city to the city authorities, thus leaving the people to their own government, although burthened with a tribute, and therefore not wholly free. From 1408 until the dissolution of the German empire, no essential change took place in the numbers of the council, or forms for governing the city. Matters, however, did not always run smoothly with the governing body, for in 1612 the bulk of the citizens finding that the families of their elders had gradually monopolized all power, and were dissipating the revenues of the city in feasting and banquets, and involving it in heavy debt, combined to force the members of these families who were in the council to resign their seats. This was resisted, and a commotion ensued, headed by three tradespeople—a pastry-cook, a tailor, and a joiner—who seized the gates, captured the arsenal, and overpowered the guards. This led to an imperial commission being sent to investigate the affair, but it was only by force that order was ultimately restored in 1614. The emperor Matthias directed the landgrave of Hesse Darmstadt, and the Kurfürst (Elector)

of Mayence, to effect this object. The pastry-cook (Fettmilch), and six of his colleagues were beheaded in the horse market, others were whipped and fined, and the guilds and citizens were compelled to pay to the emperor a sum of 50,000 florins as smart money. I have only adverted to this circumstance in proof, that the presumed freedom of the city was illusory—the emperor's commissions running at all times within the walls; and he exercising the right to quell by force of arms all disputes of the citizens respecting municipal government. The power of the guilds, however, was shaken by the outbreak, and some abuses were removed.

In the first half of the 18th century, the complaints of the citizens were again loud against the council. Scrupulously following a legal course, the citizens with difficulty obtained an imperial commission to inquire into the defects of the administration. The result was the formation of the standing Bürgerausschuss, or citizen representation, as a check upon the council.

A better understanding between the council and the citizens, was the result of this amelioration. In the French wars, however, Napoleon Buonaparte gave Frankfort to the Prince Primate, Charles of Dalberg, who possessed it from 1806 to 1813. This prince appears to have had some liberal views, for he conferred upon the Jews the right of citizenship, a distinction which had hitherto always been denied to them. The battle of Leipsic released Germany from the dominion of the French, and the allied monarchs permitted Frankfort to resume its former self-government, which was confirmed by the congress of Vienna. Parties, however, were not fully satisfied, and after some struggles, what is now called the "Constitution," was voted by the citizens at large on the 17th and 18th of July, 1816; on the 19th of July, it was proclaimed by the senate, and on the 18th of October, the constitution was sworn to both by senate and citizens. The old princely families of Limpurg and Frauenstein lost their privilege of having a certain number of seats in the council, the Jews lost the privilege of citizenship conferred upon them by Charles of Dalberg, and were left without political rights, and with some limitation in respect to the number of marriages they might annually contract.

I now come to speak of the political constitution (Staatsverfassung) and administration (Verwaltung) of the city. The principle is professedly representative, the constituent body being composed of citizens who are Christians of any denomination, excluding Jews and others not Christians. The powers of government rest in three distinct bodies,—the Senate (der Senat), the representative body of the citizens (der Ständige Bürgerausschuss, or Bürgervertretung), and the legislative body (der Gesetzgebende Körper).

The Senate consists of 42 members, and is divided into three benches. The first comprises 14 members, and is called the Schöffen (oldest senators), together with four syndics learned in the law; each of these persons has a salary of 2600 florins per annum. The next bench is called the Senators, comprising 14 members, each of whom receives 2400 florins per annum. The third bench is that of the Councillors (Rathsverwandten), also consisting of 14, each of whom receives 1200 florins per annum. The second bench is composed of jurists and merchants, and the third has 12 members from the guilds of the handicrafts, and two from that body of citizens who do not belong to the guilds. Vacancies in the first bank are supplied from the second by seniority,

and vacancies in the second and third by an election consequent upon the ballot. Members of the Senate hold office for life. Not more than four Roman Catholics, nor more than three Calvinists, are admissable into the Senate; the rest of the body consists of members of the Lutheran church. On the 1st January every year the Senate appoints two Bürgermeisters, a senior and junior; the first is taken from the first bench, and the younger from the second bench; both are chosen by ballot by the senators. The superior Bürgermeister presides over the Senate, is at the head of the armed force, and conducts the foreign relations. The younger is at the head of the police and of all matters appertaining to the citizens and the guilds. The senior Bürgermeister has 600 florins allowed to him for a couple of public dinners.

The second body in the government consists of the representatives of the citizens, called the Bürgervertretung, numbering 60 members, under the presidency of one of the senior members, who is changed every three years. This body controls the receipts and expenditure. A committee of nine audits the accounts. The representatives are elected for life, and are not paid, with the exception of the nine auditors, who receive 900 florins per annum each. Vacancies are filled up by a committee chosen by ballot of six members of this body, and six members from the 45 or democratic members of the legislative body, which committee chooses the citizens to fill up the vacancies.

The Legislative body (der Gesetsgebende Körper) forms the third portion of the government. It consists of 85 members; 20 of them belong to the Senate, 20 to the Representative body; and the remaining 45 are composed of the Christian citizens of all denominations, taken from the Electoral College, called the 75, which is elected annually from three classes of the community—the first of which comprises the nobles, learned men, the public servants, and those not belonging to the guilds; the second class comprises the merchants and traders; and the third the operatives. The eight dependent villages of the city have also a right to send 11 deputies to this body when matters are to be discussed relating to their interests. The Legislative body has a president, two vice-presidents, and four secretaries. Besides law-making, this body grants taxes and looks to their collection; fixes the military defence; approves state contracts; arranges the budget; and, above all, supervises the economy of the state. The members of the Legislative body are not paid.

The courts for the administration of criminal and civil justice are as follow:—

1. The Supreme Court of Appeal (Das Ober-Appellationsgericht) is formed by delegates from the Senates of the four free cities of Lubeck, Bremen, Hamburg, and Frankfort. Its seat is in Lubeck. Frankfort and Lubeck each send one delegate, and Hamburg and Bremen two each. The presidentship changes yearly.

2. The Appellate and Criminal Court (Das Appellations-und Criminalgericht) takes cognizance of civil matters above the value of 300 florins, appealed from the lower courts, and considers appeals in penal cases. It consists of the four syndics of the Senate, together with two senators, and their president is elected for three years.

3. The City Court (Das Stadtgericht) has the initiatory process in civil matters above the value of 300 florins. It has cognizance, also, of

matrimonial affairs, trusts, &c. It acts, also, as an appellate court from the Town and Country Offices. It is presided over by a director, vice-director, and by four councillors. There is a separate city commission for summary decisions relating to freights, exchange, and other mercantile matters.

4. The Guardian and Register Office (Das Curatel-Amt). This office takes cognizance of guardianships, trusts, &c. Two senior senators and one of the third bank administer the duties.

5. The Police Court (Das Polizeigericht) has the usual powers of such an office in the city and its dependencies. It is under the presidency of the junior burgomaster, with whom is associated one judicial senator, two judicial assessors, and two actuaries.

6. The Criminal Examination Office (Das peinliche Verhör Amt) is conducted by a counsellor of criminal law and a judicial actuary. In weighty criminal inquiries the younger burgomaster presides in this office.

7. The City Justice Office (Das Stadt Justiz Amt) is the initiatory court for all civil processes, the amount of which does exceed 300 florins. It is divided into three sections, and the duties are administered by two town bailiffs, one town assessor, and three judicial actuaries.

8. The Land Justice Office (Das Land-Justiz-Amt) is for the territorial dependencies in matters not exceeding the value of 300 florins, and decides when a voluntary jurisdiction is given in contracts, hypothecation, guardianships, partition of property, &c. The officers employed are a bailiff and two clerks.

9. Office for Mortgages and matters relating to Fixed Property (Die Hypotheken-Transscriptions und Währschafts-Behörde). This office has jurisdiction only respecting immovables. The business is conducted by a mortgage book-keeper and his assistant, under the guidance of the City Court directors.

10. The Fiscalat is the City Exchequer, and has cognizance of many matters,—proposals of guardianship, signing and sealing of obligations, permission to bury, the control of public auctions, &c., &c. A fiscal and judicial lawyer manage the office.

11. The Military Levy Commission (Die Aushebungs-Commission) consists of two senators, two deputies of the Commons' chamber, and one officer of the line, aided by two physicians to determine the capabilities of those called upon to serve. This Commission has the organization of the military levies when called into actual service. About 5000 men are upon the rolls.

12. The Building Office (Das Bau-Amt) regulates buildings, and to its duties are added those of the departments of lighting, supply of water, and inspection of conduits, city promenades and gardens, pavements, and Fire Engine Institution. This office is directed by three senators, and one deputy of the Commons.

13. The Censors' Office (Die Bücherinspection) is under three senators.

14. The Central Finance Commission (Die Central Finanz-Commission) is composed of five deputies from the Senate, and five from the representatives of the citizens.

15. The Consistory Courts, (Consistorien). The Evangelical Lutheran Consistory consists of two deputies from the Senate, three clergymen, and one judicial Consistory counsellor. The Evangelical Reformed Consistory has two senators, two spiritual Consistory counsellors, and two lay assessors.

16. The Income Tax and Sinking Fund Commission, (Die Einkommensteuer und Schuldentilgungs-Commission). This consists of five deputies from the Senate, and five from the representatives of the citizens. A section of this body, consisting of two senators and two representatives of the citizens, forms the Dwelling-house and Lodgings' Tax Commission, "Die Wohn und Miethsteuer Commission."

17. The Forest Office (Das Forst Amt) is conducted by two deputies from the Senate and one representative of the citizens, assisted by a forest conservator staff.

18. The Guilds Deputation (Die Innungs-Deputation) has the junior burgomaster as president, assisted by two members of the council of the third order.

19. The Catholic Church and School Commission (Die Katholissche Kirchen-und Schul-Commission) is under two members of the Senate, two ecclesiastics, and one layman.

20. The War Office (Das Kriegszeug Amt) is managed by three deputies from the Senate and one from the representatives of the citizens; over whom the senior burgomaster presides.

21. The Land Office (Das Land Amt). This is distinctive from the City (Justice) Land Office, attending to matters of government and finance of the eight villages dependant upon Frankfort, and overlooking the institutions relating to charities, trades, buildings, police, &c. It is managed by three deputies from the Senate and one representative of the citizens.

22. The Pawn Office (Das Pfand-Amt). Pawnbroking is a government affair in Frankfort, as in China, lending small or large sums upon suitable deposits. It is managed by three deputies from the Senate and two from the representatives of the citizens. No private pawnbroking establishment is permitted.

23. The Police Office (Das Polizei Amt). The junior burgomaster presides over this office, assisted by a senator of the second order and a counsellor of the third order. The staff of the office consists of an assessor, two actuaries, and two commissaries, &c. This office has an administrative and investigating competency; regulates the cleansing of the streets, fixes the price of every kind of food or necessaries of life, "Lebensbedürfnisse," and inspects the quality of the same in regard to health. For the protection of the living and of property, and for the prevention of disturbances endangering the public weal, there are 48 gens-d'armes, with six sub-officers and a superior officer; also 64 night watchers; and, for the outskirts of the town, 20 armed field-police, under two petty officers.

To the Police Office is joined the Fire Office. The fire-engine establishment is under the superior inspection of the junior burgomaster, who, immediately on a fire breaking out, orders the engines to the spot. The town is divided into 14 quarters, each of which has its engines,

which quickly repair to the endangered neighbourhood on the alarm being given from the great watch-tower; and the city militia assemble for the preservation of order.

The Lock Hospital, as well as the Houses of Correction and Labour, are also under the inspection of the police. Since 1809 the Houses of Correction and Labour have been separated from the Orphan House. For improving the moral and religious feelings of the inmates of these establishments, curates are appointed, and Sunday service is performed in one of the roomy wards; and beyond this, the prisoners can obtain religious books from a collection kept for their use.

The police have daily reports of all strangers who stop in the city made to it by the owners of houses where they take up their residence; the profession, name, rank, residence, &c. being given under severe penalties; and if they stay more than 24 hours, strangers must give up their passports and obtain written permission to remain. All servants, male or female, are obliged to take out books from the police, in which every particular connected with themselves is entered in different ruled columns; also name of master or mistress, date of employment, date of discharge, &c.; and a discharged servant is compelled, within 24 hours, to inform the police of the fact, and show his or her book, with the remarks upon it.

But the duties of the police extend to an infinity of other matters. The butchers, for instance, exercise their avocation each with a particular class of meat. He who sells beef does not sell mutton, and he who sells pork sells neither mutton nor beef. But, independently of these restrictions, each butcher can only sell a limited quantity of meat daily; and if he be so popular as to have a demand for more than his limited proportion, he must take it from some other butcher who has not yet sold his proportion; at least so I was told.

Women of the town are under the police. They are lodged in certain fixed localities, their numbers regulated, are subject to medical visitations; and when they travel, the poor creatures are obliged to record their profession in their passports in the coarsest terms. The number of illegitimate births will show that these restrictions have little effect upon morals.

Hackney carriages are under the police; and in each carriage is stuck the printed regulated rate of hire, the fare varying with the number of persons carried and the time occupied. The remuneration for the use of waggons, carts, trucks, porters, &c. is all fixed, contingent on weight and distance. Fire-wood is sold by the state, and the charge for its carriage is regulated by the distance it is taken. The men employed to saw the logs into lengths and split them are paid according to the number of lengths they saw; and in case the hatchet is used as well as the saw, in consequence of knots in the wood, the extra remuneration is fixed by the police.

The chimney-sweepers must inspect every chimney periodically, whether the owner of a house desire it or not, and the remuneration is fixed. In short, industry of all kinds, as well as all other matters, come under the cognizance of the police.

24. The United Excise and Exchequer Office (Das Vereinte-Rechenei und Renten-Amt) occupies the time of a numerous staff of accountants, under the direction of seven deputies from the Senate and

four from the Representatives of the citizens. It looks to the accounts of the Mint, the land and river tolls, public stables, wood office, the purveyors, the carriers, city weighing department, the wharf cranes, the hay and goods weighing, the city gates accounts (weighing and passes, &c.), the bills of exchange and stamp office, the city salt magazine administration, the sales by public outcry, the measurers, the exchange brokers and merchandise factors, the corn markets, the gauging institution on the Main, and finally, the malt and meal weighing.

25. The Health Office, or College of Medicine (Das Sanitäts Amt). Matters relating to the practice of medicine and to the public health in the city and dependencies are subject to magisterial control, under the presidency of the younger burgomaster, assisted by four consulting physicians. All the professors of the healing art are subject to this office, namely, 83 physicians, 11 apothecaries, 12 surgeons of the first and 10 of the second class, 7 dentists, 14 midwives in the city and 11 in the suburbs and villages, and 5 veterinary surgeons; so that there is about 1 medical man to every 500 souls; and as the annual average of births is 1187, each midwife averages 85 cases for the city and Sachsenhausen. There are 125 lawyers in the city, so that not only the bodies, but the goods, of the lieges must be well looked after.

26. The City Chamber (Die Stadt-Kammerei) is connected with the Exchequer and the Finances, and is under the direction of two deputies of the Senate and one representative of the citizens.

27. The City Lottery (Die Stadtlotterie) is managed by four senators and four representatives of the citizens. Raising money by lottery is in great favour with governments in Germany. There are two lotteries annually in Frankfort, and shares are obtainable down to the value of a few pence; so that the very mendicant can have a chance. Some of the projects of lotteries of the petty states or principalities would seem to be more ingenious than honest. A loan is raised in small shares (25 florins, for instance), to be paid off in a certain number of years, so much annually; but, instead of interest being annually paid upon each of these shares, the shareholders are entitled to the *chance* of a prize, a small portion of the interest that government *ought to pay* being distributed in small prizes. If the shareholder's number comes up without a prize attached to it, the money originally lent to government, possibly years before, is repaid *without interest;* if the number is drawn with a prize attached to it, the lucky holder may consider it a godsend. Original shares, or numbers remaining undrawn for successive years, advance in saleable value annually, from the greater chance of obtaining a prize. My German cook, who held one of these subscription shares of 25 florins undrawn for several years, could obtain in the money and share market 35 florins for it in 1844; these lottery shares being quoted in the Price Currents, and being negociable like other securities. I presume the Germans are peculiar in finding this lottery system attractive. To the credit of Frankfort, its lottery is not upon this principle.

28. The Foundations' Deputation (Die Stiftungs-Deputation). Charitable foundations are watched over by two deputies from the Senate.

29. The Enquiry Commission (Die Untersuchungs-Commission) looks to the claims and rights of citizenship, sojourners, &c., and is

superintended by the junior burgomaster, assisted, if necessary, by two senators of the third bench.

30. The Tolls and Customs Administration (Die Zollverwaltung) is under a director, two counsellors, two secretaries and accountants and other aids, together with an "association attorney." The Head Tax Office is under this department.

31. Office for Complaints in Toll and Customs matters (Die Zoll Untersuchungs-Behörde) is under a Toll Enquiry Judge and an actuary.

32. Senate's Miscellaneous Commissions (Besondere Senats-Commissionen) are charged with the correspondence with the ambassadors of the Confederation, on post-office affairs, the right of the city in respect to taking cognizance of post, and toll and customs matters, &c. &c.

33. Military Organization Department (Das Militärwesen).—The city has always had its military force, and traces of its existence are met with as far back as the year 1050. In 1463, it counted as many as 4000 well equipped citizens. After 1614, the town was divided into 15 quarters, which were reduced at a latter period to 14, each having its flag and company of men under a captain, lieutenant, and ensign, with a muster-master. Since 1657, in addition to the 14 companies of the quarters, there has been a body of citizen cavalry; about the same time the villages dependent on Frankfort had their militia, which was called out while the fairs were being held. In 1793, a body of volunteer sharp-shooters was formed, which still exists. In the present century a body of troops of the line was formed 500 strong. In 1812, when the city was given to the Fürst Primas, he abolished the quarter companies, and raised 4 battalions of National Guards, the fourth to have the express duty of attending at fires. The efficiency of these battalions was proved for five days during the retreat of the French from Germany.

Subsequently a reorganization of the citizens for the city defence, "Stadtwehr," took place, by enrolling all men under 60 years of age, and the military body now consists of a squadron of cavalry, a company of artillery, a battalion of sharp shooters, one of yagers, one of infantry, a fire battalion, and three other battalions of infantry, the first of which only is in uniform, and regularly armed; and two battalions of militia for the 8 dependent villages. All these are called Volunteers, although their service is compulsory, to distinguish them I suppose from the battalion of the line, which takes the daily duty of the city, the men of which are *enlisted*, and therefore genuine volunteers. This battalion of the line consists of more than 700 men, and is commanded by a lieutenant-colonel. A conscription law exists in Frankfort, but substitutes are permitted.

This concludes an enumeration of 33 public offices or departments, each with its functionary or functionaries, assistants, and dependents, for a population, including the 8 dependent villages, of 66,244 souls, all paid for of course by the inhabitants. How long such a division of labour, and multiplication of offices, would be suffered to exist, were there an annual publication of the city accounts, and an effective representation of the citizens, would scarcely be a debatable question.

The classes of inhabitants in Frankfort consists of citizens, so-

journers, the so-called Jewish citizens, and people having (limited?) permission to domicile themselves. The first alone have the real rights of citizens. The other classes are under the protection of the law, and can legally exercise their profession while permitted to remain; but no citizen rights are permitted to them, and as I was led to understand that the genius of the institutions of the city is opposed to the extension of the guilds and professions, and even to changes, except in filling up vacancies as they occur, there are small inducements to these classes to extend their numbers. The inhabitants of the 8 villages dependent upon the city are under its protection. (Staatsunter thanenverhältniss.)

The armorial bearings of the city (das Mappen der Stadt), were probably an imperial concession. They consist of a crowned white, or silver, spread eagle, on a red ground, the tongue and claws blue, and the feet golden. In the olden time, the arms were a black eagle.

Religious Constitution and Communities (Kirchliche Verfassung).

In 1533, after the Reformation, the celebration of all Catholic ceremonies, was interdicted in Frankfort, and it was prohibited to the people to hear mass, or to baptize their children in that faith. This interdict was afterwards removed. In 1633, the Catholic priests who refused homage to the Swedes were expelled; but by the treaty of Prague, in 1636, matters were restored to their former state, and since that period the Catholics have not been interfered with respecting their rites and ceremonies, and they are allowed to possess civil rights in common with the Lutheran citizens. As early as 1522, Lutheran doctrines found so many friends in Frankfort, that Hartmann Ibach was enabled to preach against celibacy in the church of St. Katherine. In 1524, many monks and nuns quitted their cloisters, and in 1525, the Lutherans had possession of the churches of St. Katherine, St. Bartholomew, and the "Three Kings," and some time after of St. Peters; and in 1530, the mass was abolished in the church of St. Nicholas. But the emperor interfering in 1548, the church of St. Bartholomew (which is the cathedral) was given back to the Catholics. Prior to 1806, the Lutherans were the paramount parties in political rights; but subsequently to the self-government of the city being restored, the three Christian communities—Lutheran, Calvinist, and Catholic—were put on an equal footing. During the persecution of Mary in England, Frankfort afforded an asylum to the expatriated; but most of whom returned to their fatherland on the accession of Elizabeth. Matters ran very high for a long time between the Lutherans and Calvinists; and up to 1785 the latter were obliged to celebrate their worship in the village of Bockenheim, outside the town. At this period the German and French Calvinists were permitted to build two chapels within the city, but they were not to have towers or clocks. Since that period, those who conform to the laws are not troubled about their religious belief; and all communities, whether Christian or not, are entitled to the protection of the State.

The Lutheran Community (Die Lutherische Gemeinde) have 12 clergymen, at the head of whom is a senior, constituting the church ministry. The Lutheran consistory is over this ministry, as church

guardians. The senate confirms the choice of a preacher, on the proposition of the consistory and elders; either from the clergy belonging to the 8 villages, or from the candidates for the ministry, whose number at present amounts to 19. The village parsons are likewise proposed by the consistory, and appointed by the Senate.

The Reformed Church (Die Reformirte Gemeinde) is the Calvinist or Presbyterian, and has 2 Presbyteries, 1 German and 1 French, each consisting of 2 preachers and 6 church elders. The preachers are paid by their several communities, and the State does not interfere in their choice.

The Catholic Community (Die Katholische Gemeinde) are under the diocese and bishopric of Limburg. The priests are accepted by the Senate, on the proposition of the Catholic Church and School Commission. Besides a city preacher, a canon of Limburg, and the bishop's commissary, the Catholic ecclesiastical body consists of 2 directors, a parish administrator, and 8 chaplains.

The Lutheran as well as the Catholic communities, have each their church representation, to protect the interests of the community in church business, and to administer the church property, &c. &c.

The treasurership of the Catholic Church, is managed by a section of the church representation.

The Mixed Church and School Commission, consists of 9 members from all Christian communities; namely, 6 deputies from the Senate, and 3 clerical councillors. A particular commission of the same is charged with the superintendence of the proclamation of mixed marriages. Frankfort pays annually 6000 florins to the Catholic bishop, and gives salaries also to the Lutheran and Catholic priests; but not to those of the Calvinist persuasion, who would not receive aid.

The Church and Burial Ground Commission, is charged with all matters relating to burials, vaults, graves, &c. The House of Peace (Friedhof), as the Germans poetically call the cemetery, is situated some distance outside the city. It is very prettily planted and laid out, and ornamented with numerous monuments, in very good taste. The enclosure is common to Christians of all sects. It is separated from the Jewish cemetery by a lofty wall. Sachsenhausen has its own small cemetery.

The Head Church-book Office (Die Haupt-Kirchenbuch Expedition) is charged with the registries of marriages, births, deaths, &c. &c.

The Frankfort Bible Society (Die Frankfurter Bibelgesellschaft) was established on the 1st January, 1816. The directors, consisting of 9 members, hold a meeting every 2 months.

The Frankfort Evangelical Missionary Association (Der Frankfurter Evangelische Missions-Verein) was formed in the 17th November, 1819, and is under 8 directors.

The Evangelical Association (Der Evangelische Verein), for furthering Christian knowledge, and Christian habits, was founded on the 6th October, 1837. For furthering business, there is a committee of 21 fellows, and a sub-committee of 5.

Another Evangelical Association was instituted on the 2nd May, 1842, for giving aid to the indigent of the Protestant community. Its business is conducted by a director and 9 members.

The Jews are divided into two sects, the Talmudists, and the Rationalists, and have necessarily two synagogues.

Institutions for the Poor.

The common poor box, or fund, (Der allgemeine Almosenkasten,) was founded in the year 1428 by John Weissbinder; 10 years later John von Holghausen added to the fund, and subsequently many others; and accessions fell to it from other sources. The Executive or Disbursement Committee distributed yearly in the 14 quarters of the city a great quantity of bread and wood, and the ready money given away is said to amount to 50,000 florins annually. This great outlay is supported by legacies, gifts, and by Sunday collections at the several Lutheran churches. Even with assistance from all the Christian churches, the funds are frequently insufficient to meet the claims, and the city chest is obliged to give its aid. Independently of the common poor box, each religious community has a box for its own poor.

The Orphan House, (Das Waisenhaus). The present large and simple, but dignified building, stands on the site of one erected in 1675. It receives the orphans, both male and female, of all the Christian communities. The bed wards run from end to end of the extensive frontage, and are well ventilated. On my visit there were not any bad smells, and everything looked clean and comfortable. To my surprise, each child's bed had a feather pillow. Meat is allowed only twice a week, and on other days soup and vegetables. A piece of rye bread constitutes a child's breakfast. The children in general did not look clear-skinned nor healthy; certainly not robust. The institution is supported partly by the State and partly by subscription, bequests, gifts, &c., particularly from an important accession from the deceased Philip Henry Flick. There are usually from 200 to 250 orphans in the house, boys and girls, who are instructed by resident teachers.

The Poor House (Das Versorgungshaus). Although the poor are generally looked after and their wants attended to in their dwellings, yet this capacious modern building was deemed necessary as auxiliary to the system, to aid houseless operative citizens or sojourners, or their wives, who are selected and recommended for residence by committees of the different communions. Most of the residents are above 60, and on my inspection of the institution in March last I found 72 males and 40 females located in the building. If husband and wife come in, they are not permitted to live together, although under the same roof. Work is supplied to the out-door poor in their several vocations who choose to come and labour in the work-room, and they are paid for their labour; others can come and learn a trade. I observed the men employed in shoe and basket and mat-making, wool and coffee picking and cleaning, &c. The old women were engaged in spinning, knitting, and sewing. Meat is given three times a week; soup and vegetables on the other days. Coffee for breakfast daily. The poor are located in small rooms, six or eight in a room. Not only were there feather beds, but numerous feather coverlets, like eider down quilts,—mostly, however, brought in by the poor themselves. The Catholics have a chapel to themselves in the house. The smells in the work-rooms were bad, but the dormitories were free from odour. It is assisted by the State, and by gifts and contributions; but is understood to be more wanting in funds than any

other institution in Frankfort. In general the different religious communities look after their own poor, through the medium of committees.

The Destitute Females' Institution of St. Katherine's, and the White Ladies Convents (Die Weiblichen Versorgungs-Anstalten der St. Katharinen, und Weifsfrauen Klöster). These two former convents for unmarried females have merged into the Lutheran Charitable Institution for females, so that at present from the income of the first 24 women, and from the last 13 females, draw pensions. The choice of the widows and orphans is in the Senate, who usually lean to those whose husbands or parents have served the State.

The Aid Society of the Netherlands Community (Die Unter-Stussungsaustalt der Niederländeschen Gemeinde) was established in the 16th century by the Lutherans, who were driven from Antwerp on account of their religion, and found an asylum in Frankfort. The poor of this rich community are maintained out of a common purse, supplied by contributions of the wealthy. With the institution is joined a house for orphan boys, who get well educated.

The Aid Society of the Oberland Community, as distinguished from that of the Netherlands, was founded in 1754 by Lutherans, and in 1778 was recognized by the State. It is in imitation of the preceding.

Dr. Flick's foundation has several beneficent aims. It is committed to two administrators, the survivor of whom chooses an associate on the death of his fellow.

Besides the above, there are ten widows' and orphans' funds, namely, of the Civil Servants, of the Physicians, of the superior Officers of the Troops of the Line, of the Evangelical Lutheran Preachers, of the Village Pastors, of the regular Teachers of the Gymnasium, of the Model School, of the Common School, and of the regular teachers of the Catholic and of the Village Schools.

The Loan Fund (Die Hülfskasse) owes much to the large donations of the former Grand Duke. Its object is to assist honest citizens, who, in pursuit of their business, are in want of money.

A remarkable institution, called the "Cronstett und von Hynsperg'sche Damenstift," or Ladies Foundation, must not be omitted. It was founded by Justina Catherine von Cronstett, in 1753, for portionless single females of the noble houses of Alten-Limburg. She left her own princely mansion, with a frontage of from 15 to 21 windows on a floor (I do not recollect the exact number), towards the Rossmarkt, for the location of 12 single ladies of pious and pure life, who dine together, but have each two separate rooms, receive their friends, and remain in the house until they marry or die.

The Jews are not behind their Christian brethren in the number and efficiency of their charitable institutions and societies. Amongst these are a society for giving dowries to the daughters of Jewish citizens (so called), bequests for doing the same for two poor girls annually, society for distributing fire-wood to the poor, institution for poor single persons, for poor women lying in, and for many religious objects.

The exclusion of the Jews from the guilds at an early period induced that community to look to the means of furthering the condition of their craftsmen. Their emancipation during the reign of the Grand Duke led to the establishment of a society for this purpose; but this fell with their short lived freedom, on Frankfort being restored to its former political

condition. From a society, however, for teaching handicrafts to the children of foreign Jews, arose the present flourishing Jewish Association, supported by more than 500 subscribers, having the same object in view for the Jewish youth of the town, which, after 18 years' operation, has been attended with signal success, and its pupils are spread in the most distant regions. The success of this Association has led to the establishment of many others in Germany on the same model.

I may remark here, that one of the characteristics of Frankfort is the disposition of the people to form themselves into associations and societies for any and all objects—free-masons, merchants' associations, shooting societies, unions for reading, balls, music, &c. The best of these is the Casino, possessing excellent apartments, looking on the Rossmarkt. It consists of two classes—annual subscribers and a class of strangers, who are very liberally permitted to subscribe for three months; and fellows can introduce a stranger for a month without payment. It is abundantly supplied with periodicals and newspapers; has billiard tables, chess boards, card tables, &c.; and the fellows give several balls to the ladies in the year.

Several of the second rate hotels give balls (some of them masked) once or twice a week, chiefly on *Sundays*, and the admission is so low, that the lower classes can participate in them; much I should think to the risk of their own moral feelings, and certainly to the scandal of the town.

I wish I could state any thing specific respecting the finances of Frankfort; but considering that it calls itself a free city, that it has a semblance of a representative system in its administration, I must say that a secrecy is preserved with respect to the details, and even the amount of its income and expenditure, which is very discreditable to the governing body. The other free cities of Germany permit financial facts to appear in the Almanac de Gotha, and most of the despotic states of Germany have even less reserve in this important matter, particularly Prussia. It is said, that the financial accounts are always open to the inspection of the members of the representative body, but they do not promulgate details out of doors; and it was in vain I tried to obtain detailed information on the subject. A member of the lower house, a friend of my friend, at the request of the latter, inspected the books, and as far as his memory served him he communicated the result of his observation. The income of the city was about 1,280,000 florins, made up of about 80,000 income tax, 80,000 house tax, 70,000 octroi, 80,000 stamps, and 80,000 to 90,000 forests; and it has its share of the collections of the Zollverein, in proportion to the number of its inhabitants. The expenditure would appear to be a profound secret, for of that I could not obtain any account whatever. A German friend, to whom I applied, laughingly said it was a "mystery." The income tax is levied in a progressive per centage, according to the amount of income. Under 150 florins the tax is 15 kreutzers, or 5*d*. At 1000 florins, it is $\frac{1}{4}$ per cent.; at 4000 florins it is $\frac{3}{10}$ths per cent.; at 8000 florins it is $1\frac{6}{10}$ths per cent.; and all income above this sum pays 2 per cent.

In one matter Frankfort has a decided advantage over England, and that is in the cheapness of printing, and the consequent easy diffusion of information; and tradespeople have an incalculable advantage in the cheap facilities afforded to them for advertising their goods. The

subscription to the "Intelligence Blatt," issued thrice a week, is 3 florins, or 5*s*. per annum, and 2*s*. 6*d*. for the half-year, paid in advance. For this trifling sum the subscriber has sometimes as much as 36 pages of letter press. The Government proclamations, official acts, proclamations of marriages, births, and deaths, are inserted weekly in this paper. Advertisements are inserted at 6 kreutzers, or 2*d* the line running across the whole width of the newspaper, and 1½*d*. for the half line.

In this place it will only be necessary to enumerate the various societies for different objects, as statistical details will be given of most of them. The Physical Society, the Medical Institute, the Natural History Society, the Natural History Museum, the Geographical Society, to which a statistical section is added, the College of Advocates, the Polytechnic Society, the Trades Association, the Institute for Garden and Field Culture, the Savings' Bank, the Institute for Improving the Condition of Servants, and for giving annual prizes to those who from length of service deserve them, and the Institute for the Blind.

The City Library is on a very good footing; comprising also some cabinet pictures and antiquities. There are also valuable private libraries, and reading societies. Frankfort has its journals and newspapers, the Frankfort Journal being in French.

With respect to Städel's Institute of the Fine Arts, comprising as it does a gallery of numerous pictures, some of them good, ancient and modern, it may be desirable to say a few words. It was founded in 1816 by a citizen of Frankfort, John Frederick Städel, whose object was not only the encouragement of the fine arts, but also that poor children of the citizens of Frankfort, without distinction of race or religion, should be *gratuitously* instructed in drawing, painting, copper-plate engraving, statuary, architecture, &c. The management of the institute and its funds are confided to five fellows; and, on a vacancy occurring, the others must elect a person to supply the place. The public are admitted daily to the collection of pictures, from 10 till 1; but to the library on Tuesdays and Thursdays only. Of the Flemish school there are paintings by Rubens, Ruysdael, Berghem, Wouvermans, Weenix, Hobbema, the two Vander Veldes, Ostade, the two Teniers, &c. Of the old Dutch school paintings by Schoreel, Granach, Quentin Matsys, van Eyk, Holbein, Durer, &c. Of Frankfort painters, works by Elsheimer, Lingelbach, Steenwick, Roos, Schuts, &c. Of modern painters some are very large, and a few of them are very good. Lessing's "Huss before the Council" is excellent. There are also some landscapes of his pretty good. Overbech's "Triumph of Religion" is good; also Rethel's "Daniel in the Lions' Den." A few of the Italian school are scarcely worth notice. There are also some antiquities.

The meteorology of a country so much influences its vital statistics, that it will be necessary to say a few words on the subject. The following means, maxima, and minima monthly, for the period between the years 1827 to 1838, at Frankfort, are from observations by Von Kreigf, the 10 P.M. observations being only from 1827 to 1835.

TABLE I.

Months.	9 A.M.			12 o'Clock.			3 P.M.			10 P.M.			Monthly Mean Temperature.
	Mean.	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	
	Deg. Faht.	Deg. Faht.	Deg. Faht.	Deg. Faht.	Deg. Faht.	Deg. Faht.	Deg. Faht.	Deg. Faht.	Deg. Faht.	Deg. Faht.	Deg. Faht.	Deg. Faht.	Deg. Faht.
January . .	28·2	54·0 24/1834	−8·0 30/1830	32·0	55·8 31/1830	−3·8 31/1830	31·8	57·0 24/1834	−3·8 31/1830	28·6	54·9 24/1834	−10·7 31/1830	30·15
February . .	32·0	52·9 10/1833	−10·7 2/1830	36·7	57·4 11/1833	−1·5 1/1830	37·2	58·5 11/1833	−3·1 1/1830	32·0	51·8 27/1834	−10·7 18/1827	34·5
March . . .	41·4	57·9 22/1826	24·6 7/1828	46·4	65·7 21/1836	27·5 9/1833	46·3	72·7 31/1830	27·1 9/1833	40·1	59·4 31/1830	22·6 7/1828	43·5
April . . .	49·7	71·8 11/1827	27·9 9/1837	57·6	75·9 30/1827	38·3 21/1834	56·5	81·5 30/1827	29·8 9/1837	47·1	64·8 28/1830	27·5 9/1837	52·7
May . . .	59·7	82·2 21/1827	44·2 10/1838	66·4	85·5 22/1827	44·8 14/1832	66·7	96·8 31/1827	41·9 10/1837	56·1	75·9 31/1827	37·2 14/1832	62·2
June . . .	66·0	81·5 27/1827	47·8 9/1838	71·8	89·4 26/1830	55·6 6/1829	72·5	96·8 19/1827	51·1 8/1838	62·1	75·9 14/1827	43·2 8/1838	68·1
July . . .	68·7	84·0 5/1828	54·5 27/1838	75·4	91·2 30/1830	48·9 19/1832	76·1	95·7 4/1828	57·2 25/1838	65·1	80·6 4/1828	50·0 19/1832	71·6
August . . .	65·3	82·8 3/1827	52·2 30/1832	71·1	89·8 3/1827	54·5 30/1832	72·5	91·6 3/1827	55·2 27/1832	62·8	81·0 3/1827	51·1 29/1832	87·9
September . .	58·3	74·7 1/1831	52·2 30/1827	64·4	79·5 11/1827	52·2 30/1831	65·3	85·5 18/1827	50·9 13/1836	56·5	68·0 4/1836	45·0 20/1827	61·1
October . . .	49·3	63·5 1/1828	30·9 31/1836	54·3	68·0 3/1831	39·4 30/1828	55·6	72·5 8/1836	34·2 31/1836	48·9	63·5 1/1831	32·2 29/1828	52·0
November . .	38·3	57·9 7/1831	5·0 15/1835	41·7	60·1 2/1830	5·1 14/1835	42·1	60·1 7/1834	20·8 14/1835	38·7	60·1 7/1830	14·0 14/1835	40·2
December . .	34·5	54·0 28/1833	2·7 31/1829	37·4	55·5 22/1828	8·2 28/1829	37·6	55·6 16/1827	8·4 28–1829	34·9	34·7 9/1833	3·2 2/1829	36·1
Total Year	49·3			54·6			55·9			47·7			51·6

The latitude of Frankfort is 50° 6′ N. and the longitude 8° 36′ E. of Greenwich Observatory. The latitude of London is 51° 31′ N. and the longitude 0° 5′ 48″ W. of Greenwich. The mean temperature of Frankfort for the year, it will be seen, is 51° 6′ of Fahrenheit, while that of London, deduced from 20 years' observations by Mr. Howard, is 50° 5′. This difference of mean temperature might be looked for from the difference of latitude; but Frankfort has an infinitely greater range of the thermometer than London, the cold of winter being much more severe, and the heats of summer much more oppressive. The mean temperature of January in London is 36° 34′, while for 11 years in Frankfort it is 30° 15′. In December, London is 38° 71′, while Frankfort is 36° 1′. The hottest month in both cities is July; but in London the mean temperature is 62° 97′, while in Frankfort it is 71° 6′; and by Mr. Kreigf's table it appears that at 12 o'clock, in 1830, the thermometer rose to 91° 2′; at 3 P.M. 95° 7′ in 1828; and in June, 1828, at 3 P.M., 96° 8′; and at 10 P.M., in 1832, in July, the *minimum* heat was 50°. On the other hand, the cold at Frankfort is extreme at times. The minimum in January, 1830, at 9 A.M., was 40° below the freezing point; and at 10 P.M., in 1830, even 42° 7′ below the freezing point. Under these circumstances, as might be expected, the annual range of the thermometer is very considerable; and Von Kreigf states that in the year 1827 it ranged from 28° 8′ plus to 22° minus, or 50° 8′; that is to say, from 96° 8′ Fahrenheit to 49° 5′ below the freezing point—a range of 114° 3′ of Fahrenheit. This must necessarily be very trying to constitutions not robust.

The monthly increment and decrement of temperature following the sun's course, will consequently not be found to correspond in Frankfort and London. In the former, the monthly differences are, January being the coldest month,

Frankfort . .	Jan. to Feb. 4·35+	March, 9·0 +	April, 9·2 +	May, 9·5 +	June, 5·9 +	July, 3·5 +
London . . .	Jan. to Feb. 3·26+	March, 2·41+	April, 5·60+	May, 7·79+	June, 5·96+	July, 3·61+

Frankfort . .	Aug. 3·7—	Sept. 6·8—	Oct. 9·1 —	Nov. 11·8—	Dec. 4·1 —	Jan. 5·85—
London . . .	Aug. 0·7—	Sept. 5·2—	Oct. 6·91—	Nov. 8·3—	Dec. 3 69—	Jan. 2·37—

The chief features here are the rapid increase of temperature at Frankfort, at the rate of 9° monthly, to June; while in London the temperature increases gradually, the greatest monthly differences being less than 8° in May. In Frankfort there is a fall of 3° 7′ in August, while in London, July and August scarcely differ in temperature. Another feature of Frankfort is the great fall, of nearly 12°, in November, while in London it is not more than 8° 3′. The fall also from December to January, in Frankfort, is 5° 85′, while in London it is only 2° 37′.

The next great meteorological fact bearing upon health, probably the most important of all, is the moisture of the air and its changes. The average annual fall of rain in London is about 24 inches; but the fall of rain does not indicate the average moisture of the air, which can only be shown by the dew point. This is not given by Kreigf; and although given for two years by Schmidt, yet I cannot profit by it, as I know not what instrument or what scale is used. I would presume, however, that the climate of Frankfort is comparatively dry.

Frankfort has experienced numerous shocks of earthquakes, and a list of the occasions is given by Kreigf, commencing with A.D. 872 and

ending with A.D. 1728. Their number is 23; and that of 1728 was so severe, that it moved furniture, and shook open closed (locked) doors.

TABLE II.—*Meteorological Characteristics at Frankfort during the Years* 1839 *and* 1840, *from Papers communicated to the Geographical Society by L. M. Schmidt,*

1839

—	Fog.		Rain.		Snow.		Hail.		
	No. of Times.	Total Duration in Days.	No. of Times.	Total Duration in Days.	No. of Times.	Total Duration in Days.	No. of Times.	Tempests, Thunder, and Lightning.	Dew Point Lines.
									°
January .	2	1½	11	4¼	13	4	1, *1	..	22·05
February .	5	3½	15	5¼	8	2¼	*1, 1	..	45·30
March . .	1	0½	16	4	5	2	1	..	29·10
April . .	..	..	17	2¾	3	1¼	..	..	15·60
May . .	2	2	15	3½	..	..	..	5	21·75
June . .	1	0¼	21	3¼	..	..	..	5	20·70
July . .	2	0½	20	2	..	..	..	9	14·40
August . .	2	0¼	22	3½	..	..	..	3	34·50
September .	8	2	27	6	..	..	..	4	29·10
October . .	6	1½	14	3¼	2	0½	..	..	22·95
November .	3	2	17	4½	2	0¼	..	..	15·00
December .	6	2½	26	5¼	3	1¾	1, *1	..	46·35
Total Year	38	16½	221	48	36	12	7	26	26·48 mean.

1840

January. .	7	1¾	17	4¾	4	1	*1	2	27·75
February .	6	1½	12	2½	4	0½	*1	..	13·95
March . .	1	0½	6	1¼	13	3½	*1	..	10·65
April . .	..	..	7	0¾	..	..	..	..	1·95
May . .	1	0½	22	5	..	..	1	2	14·10
June . .	..	..	21	4½	..	..	1	5	26·25
July . .	4	0½	18	3½	..	..	..	5	25·20
August . .	1	0¼	15	2½	..	..	..	2	10·05
September .	2	0½	26	5	..	..	..	1	28·80
October . .	4	1¼	25	4¾	..	..	*1	..	21·00
November .	3	0½	28	8¾	2	0¼	*1	2	51·15
December .	4	1¾	3	0¾	3	0¾	..	..	7·50
Total Year	33	9	200	44	26	6	10	19	19·10 mean.

*Sleet.

It would appear from the above table that there were 38 times fog in 1839, equal to a duration of 16½ days; quite equal to, if not exceeding, anything we have in London. In 1840 fog occurred 33 times, but equal only to a duration of 9 days. April would appear to be free from them, and they are less constant in *November* than in the winter months. Rain occurred 221 times in 1839, and 200 times in 1841; the duration in the former year being equal to 48 days, and in the latter to 44: and

the fall was not widely different in the respective months of the 2 years. It snowed 36 times in 1839, and 26 times in 1840; the duration of the first, however, being equal to 12 and of the last to 6 entire days. As might be expected, the thunder-storms are most rife in the hot months, and they are somewhat numerous particularly in July. Of the dew point I cannot say anything, as I do not know what instrument or what scale is used, but the *mean* indications are in inches and lines.

TABLE III.—*Prevailing Winds at Frankfort during the Years* 1839 *and* 1840, *communicated to the Geographical Society by L. M. Schmidt.*

1839

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
	No. of Days.	No. of Days.	No. of Days.	No. of Days.	No. of Days.	No. of Days.	No. of Days.	No. of Days.
January	1½	2	3	0½	0½	14½	6	3
February	..	2½	1½	2½	..	13	4½	4
March	0½	9	7½	2	1	8	2½	0½
April	3½	13	1½	1	0½	3½	2½	4½
May	4	7½	4	5½	..	2	2	5½
June	1	5½	4	3	2	7	6	1½
July	1	3	0½	1½	0½	16½	4½	3½
August	5½	4½	1½	2	2½	10½	1	3½
September	..	1	3½	2½	3½	11	6½	2
October	1	16	4½	4	1½	2	1	1
November	2	5	2	7	1	5½	2½	5
December	1	4	3½	3½	1	9½	3	5½
Total Year	21	73	37½	35	14	103	42	39½

1840

January	1	9	2½	..	0½	17	1	..
February	1	9½	6½	2	2	6	2	..
March	2	11½	3½	..	..	6	4½	3½
April	2½	11½	11	..	..	2	1½	1½
May	0½	2½	5½	0½	0½	10	8½	3
June	..	2½	1½	..	0½	13½	8½	3½
July	2½	0½	0½	0½	0½	16½	6	4
August	4	8½	4½	..	1	10	1½	1½
September	1½	2	2	1	5	12	4	2½
October	1½	6	1½	1½	2½	10½	5	2½
November	1½	6½	2½	1	1½	16	1	..
December	2	16	7	1½	..	4½	..	..
Total Year	21	86	48½	8	14	124	43½	21

In Frankfort, as in London, the chief winds are principally from the westerly points, and singularly so from the south-west. It will be observed that there is considerable uniformity in the winds in the respective months of the 2 years, 21 days in both years from the north and 14 days in both years from the south; and from the west, in 1839, it was 42 days, and in 1840 it was 43½. This uniformity is curious. Mr. Schmidt gives the intensity of the wind for each month, and it is found as the south-west is the most prevailing wind, so is its intensity the greatest. The next in intensity are the north and north-east.

TABLE IV.—*Population of Frankfort, together with Sachsenhausen and the dependent Villages of the State of Frankfort, according to the Census taken in December*, 1840; *from a Paper by Von Dreitzigacker and L. M. Schmidt, published in the Third Number of the Physico-Geographical Society's proceedings at Frankfort*, 1841.

	Number of Families.	Average souls to a Family.	Men and Boys above 14 Years of Age.	Women & Girls above 14 Years of Age.	Children under 14 Years of Age.		Total Inhabitants.		Total Males and Females.
					Males.	Females.	Males.	Females	
Frankfort and Sachsenhausen, with their garden houses .	7,426	7·66	23,475	23,013	5,218	5,233	28,693	28,246	56,939
1. Village of Bornheim . .	530	5·46	1,049	1,044	387	418	1,436	1,462	2,898
2. ,, Oberrad . .	379	5·43	689	760	300	311	989	1,071	2,060
3. ,, Niederrad .	286	5·60	518	590	229	267	747	857	1,604
4. ,, Hausen . .	101	5·36	199	192	84	67	283	259	542
5. ,, Niederursel .	86	5·14	159	158	69	56	228	214	442
6. ,, Bonames . .	86	5·55	244	188	68	78	312	266	578
7. ,, Niedererlenbach	132	5·44	270	240	101	107	371	347	718
8. ,, Dortelweil .	100	4·63	157	188	59	59	216	247	463
Total . .	9,126	..	26,760	26,373	6,515	6,596	33,275	32,969	66,244

The number includes strangers who have lived a year in the several localities.

Population.

The city of Frankfort occupies 625 acres (Morgen), and its lands comprise 10,777 acres. Sachsenhausen stands on 54 acres, and its lands comprise 4,335 acres. The forests of Frankfort contain 15,060 acres; the total area, therefore, contains 30,851 acres: the 8 villages cover 17,619 acres. The population of Frankfort and its dependencies is composed of citizens, sojourners, and strangers, comprised in several Christian sects, and two divisions of the Jews. I tried in vain to obtain the details of the numbers distributed under their religious beliefs, and equally failed in determining the numbers under the various occupations. It is understood that amongst the Christians the Lutherans greatly prevail; they having 7 churches and 3 chapels for divine worship; the Catholics have 3, and are said to number about 7000 souls; and the Calvinists 2 places of worship for 2000 souls. The Herrnhutters have a meeting-house, and the Jews 2 synagogues. I understood that the Jews numbered more than 7000 souls. These several numbers would leave above 40,000 Lutherans. Disabled from obtaining the details of the census of 1840, I went over the Directory, and picked out the following numbers of persons engaged in the chief occupations:—

Advocates, LL.D.	Physicians, including Surgeons and Accoucheurs.	Apothecaries.	Bakers.	Brewers.	Beef Butchers.	Veal Butchers.	Pork Butchers.	Mutton Butchers.	Innkeepers and Inns.	Shoemakers.	Men's Tailors.	Ladies Tailors (also Men.)	Teachers of Music, not including Orchestras.	Letters of Carriages.
96	69	10	44	109	66	25	29	16	58	205	175	64	52	27

These figures exhibit curious features. The lawyers more than double the number of bakers, and nearly equal the combined numbers of the bakers and beef butchers. Law would seem, therefore, to be as much a pabulum for the Frankforters as bread and beef; but the brewers slightly exceed the lawyers: the consumption of beer and law, therefore, runs almost neck and neck. The people support more dispensers of physic in their various grades than bakers or beef butchers. But if numbers supported in each trade be indicative of a predilection of a people, then the passion of the Frankforters is for dress; for the shoemakers, and men's and women's tailors, (the latter being males,) put the combined numbers of lawyers, doctors, brewers, and butchers of all classes—beef, pork, mutton, and veal—out of the category; and I must admit there is some semblance of truth in this, for the Frankforters are a well-dressed people.

There are about 4000 houses in Frankfort, averaging 14 souls to a house, and 12 in Sachsenhausen. But the city is divided into 14 quarters, and the proportion to a house varies from 20 in letter B and letter E to 11·1 in letters K and M. This large average to a house, exhibiting so marked a contrast to England is to be attributed to the magnitude of the houses, and does not occasion crowding. In the respectable and most aristocratic parish in London (Marylebone), the houses average only 9·7 inhabitants; Westminster, only 8·8; and all Middlesex only 7·6. Edinburgh, which I thought, might afford a fair contrast with Frankfort, contains without Leith only 6·5 to a house; Glasgow not so many; and the city of Perth, the extraordinary number of only 3·8 to a house; York city 5; Manchester not quite 6 to a house, and Liverpool 6·9. The feature, therefore, noticed in Frankfort is quite characteristic. The ventilation and drainage in most parts are bad, and the cesspools in most of the houses, even of the palatial character, are intolerable nuisances. The lighting and paving of the city are quite unworthy of it. There are not any foot pavements, and a miserable oil lamp is slung across the street at long intervals, making darkness visible.

It will be remarked that one unusual feature in the population is the equality of the sexes, even at those ages where in most countries females predominate: the males above 14 years of age amount to 23,475, and the females to 23,013, and this character predominates throughout the villages, with the exception of Oberrad, Neiderrad, and Dortelweil; and the final results exhibit the same features, namely, 26,760 males, and 26,373 females above 14 years of age. The sexes under 14 years of age exhibit a contrary feature, and opposed to the usual proportions; the male children amount to 6,515, while the female amount to 6,596. The Fourth Report of the Registrar-General states that 10,846 males are born to every 10,000 females in England; and between the age of 15 and 20 in the Fifth Report, it is calculated that there will be living only 782,425 males to 805,915 females, and the excess of females increases after this period; below 15, the excess is in favour of males. I am not aware of any local cause for this deviation from a general law at Frankfort.

Another unusual feature in the social condition of Frankfort, is the large number of persons constituting a family in Frankfort and Sachsenhausen, amounting to 7·66. If we look to the 7 out of the 8 dependent villages, the variation is only from 5·14 to 5·60. In the village of Dortelweil alone, 4·63 persons constitute a family. If we consider

the average to a house of 3·8 persons in Perth as indicative of each house being occupied by a family; the disproportion between the Frankfort average and this is remarkable.

Another feature in the Frankfort population is its probably stationary character for at least 120 years, judging from the marriages, births, and deaths noticed elsewhere, and this might be accounted for by the stringent character of its municipal institutions, which only permit vacancies to be filled up in the guilds; and persons seeking work or service, to remain in the city only three days, unless they find employment. The free city would thus appear to be little influenced by the progressive spirit of the age.

TABLE V.—*Marriages Yearly in Frankfort and Sachsenhausen, according to the Station of the Parties.*

——	1833	1834	1835	1836	1837	1838	1839	1840	1841	1842	1843	Total for 10 Years.	Annual Averages.
Citizens with citizens .	109	83	108	94	103	97	116	109	96	87	98	991	$99\frac{1}{10}$
Citizens with residents, not citizens . . .	113	9	10	15	15	5	10	22	14	14	12	126	$12\frac{6}{10}$
Citizens with strangers	*	155	138	140	136	157	179	149	135	133	121	1,443	$144\frac{3}{10}$
Residents with residents, both not citizens .	14	2	2	1	1	1	..	..	2	1	1	11	$1\frac{1}{10}$
Residents with strangers	†	5	11	10	17	16	13	7	6	7	8	100	10
Strangers with strangers	†	14	5	7	8	12	13	7	11	11	5	93	$9\frac{3}{10}$
Belonging to the Jewish community . . .	16	35	24	28	26	23	11	31	12	18	22	230	23
Total Pairs .	252	303	298	295	306	311	342	325	276	271	267	2,994	$299\frac{4}{10}$

* Included in the above. † Included in the last.

Marriages, Births, and Deaths.*

It will be observed that in 11 years the births in Frankfort and Sachsenhausen amounted to 13,058, and the deaths to 12,864, making a difference only in favour of the births of 194. Now, as the guilds and trades have not increased from without, and as strangers seeking employment can only remain (unless employed) a limited period in the city, there is reason to believe that the population has remained nearly, if not altogether stationary, for many years back. Indications of this are furnished in the marriages, births, and deaths for periods going back for more than a century in Frankfort and Sachsenhausen.

——	Marriages.	Births.	Deaths.
1720 . . .	191	935	1,241
1746 . . .	262	1,081	1,345
1749 . . .	232	1,013	1,345
1794 . . .	288	823	1,497
1840 . . .	294	1,145	1,062

* Table VI., see page 26.

TABLE VI.—*Monthly Return of Marriages, Births, and Deaths in Frankfort and Sachsenhausen, during Eleven Years.*

	1833			1834			1835			1836			1837			1838			1839		
	Marriages.	Births.	Deaths.	Marriages.	Births.	Deaths.	Marriages.	Births.	Deaths.	Marriages.	Births.	Deaths.	Marriages.	Births.	Deaths.	Marriages.	Births.	Deaths.	Marriages	Births.	Deaths.
January .	19	83	102	10	81	95	17	112	90	16	102	134	28	78	100	15	95	102	20	94	128
February .	16	59	80	21	89	99	11	110	94	24	95	136	17	109	162	16	114	82	30	113	101
March .	32	72	89	18	120	112	24	108	96	23	108	133	16	95	144	24	117	102	20	110	129
April . .	11	88	123	31	93	137	26	106	98	20	94	122	30	119	164	26	106	107	29	115	129
May . .	28	95	123	29	146	111	26	76	87	34	98	123	34	100	103	35	98	121	35	104	90
June . .	22	84	137	24	97	82	22	91	94	18	101	108	24	93	84	23	82	93	26	109	83
July . .	27	96	100	30	97	93	21	100	72	29	95	75	26	84	92	31	105	83	37	93	79
August .	20	101	99	20	95	106	40	91	89	30	89	85	30	89	84	36	103	91	37	97	93
September	21	76	102	24	95	105	28	95	89	25	110	72	28	106	69	25	95	99	30	96	86
October .	30	81	94	38	85	96	38	95	59	31	96	78	31	104	71	38	105	108	30	92	87
November	17	79	88	33	97	96	25	92	80	25	97	91	24	77	85	20	80	90	19	91	81
December	9	86	93	25	98	95	20	91	89	20	81	91	18	84	86	22	76	100	26	95	111
Total .	252	*1,000	1,230	303	1,163	1,227	298	1,167	1,037	295	1,166	1,248	306	1,138	1,244	311	1,176	1,178	342	1,209	1,197

	1840			1841			1842			1843			Total for 11 Years.			Monthly Average for 11 Years.			Quarterly.		
January .	16	96	86	21	123	106	18	104	105	10	128	94	190	1,096	1,142	$17\frac{3}{11}$	$99\frac{1}{11}$	$103\frac{8}{11}$			
February .	24	87	98	20	99	93	16	116	100	25	120	89	220	1,111	1,134	20	101	$112\frac{2}{11}$	$20\frac{1}{11}$	$101\frac{0}{11}$	$109\frac{9}{11}$
March .	32	98	103	25	119	126	25	99	86	15	102	130	254	1,148	1,250	$23\frac{1}{11}$	$104\frac{4}{11}$	$113\frac{7}{11}$			
April . .	29	108	116	14	111	134	16	97	87	20	99	109	252	1,136	1,326	$22\frac{10}{11}$	$103\frac{1}{11}$	$120\frac{6}{11}$			
May . .	28	104	105	26	108	103	35	108	105	22	104	97	335	1,111	1,168	$30\frac{5}{11}$	101	$106\frac{2}{11}$	$25\frac{7}{11}$	$101\frac{2}{11}$	$106\frac{1}{11}$
June . .	28	111	84	21	119	80	20	118	96	30	90	78	258	1,095	1,019	$23\frac{5}{11}$	$96\frac{6}{11}$	$91\frac{1}{11}$			
July . .	11	101	73	19	114	104	38	117	80	34	102	64	323	1,104	915	$29\frac{4}{11}$	$100\frac{4}{11}$	$86\frac{9}{11}$			
August .	38	114	83	23	89	91	21	99	97	27	116	83	322	1,083	1,001	$29\frac{3}{11}$	$98\frac{5}{11}$	91	$30\frac{6}{11}$	$99\frac{5}{11}$	$88\frac{6}{11}$
September	23	106	70	28	90	83	21	120	98	20	105	92	273	1,094	965	23	$99\frac{5}{11}$	$87\frac{8}{11}$			
October .	29	108	80	28	96	133	25	113	96	30	84	92	348	1,059	994	$31\frac{1}{11}$	$96\frac{3}{11}$	$90\frac{4}{11}$			
November	17	95	82	28	92	70	16	100	95	14	93	83	238	993	941	$21\frac{1}{11}$	$90\frac{3}{11}$	$85\frac{6}{11}$	$24\frac{2}{11}$	$93\frac{1}{11}$	$89\frac{3}{11}$
December	30	99	82	23	106	95	20	100	82	20	112	85	233	1,028	1,009	$21\frac{2}{11}$	$93\frac{5}{11}$	$91\frac{8}{11}$			
Total .	325	1,227	1,062	276	1,266	1,211	271	1,291	1,127	267	1,255	1,096	3,246	13,058	12,864	$295\frac{1}{11}$	$1,187\frac{1}{11}$	$1,169\frac{5}{11}$			

* Not including 62 born dead.

Now, the approximations in these numbers with those in the years from 1720 to 1840, seem to indicate that the restrictive policy is of ancient date, and that no great fluctuations have taken place in the population of the city. The population, by the census of December, 1840, was 66,244, including the 8 villages. In 1837, it was stated to be 63,936, but I know not on what authority this rests, and I shall use, therefore, the number in the city and Sachsenhausen 56,739, of the census of 1840 for determining per centages.

In marking the effect of seasons upon marriages, births, and deaths quarterly, the Registrar-General makes winter end 31st March; spring, 30th June; summer, 30th September; and autumn, 31st December: this does not accord with the curve of temperature, the greatest quarterly cold being in the months of December, January, and February, and not in January, February, and March. The effect of a natural law may be thus masked. He obtains the following results:—

	Autumn.	Spring.	Summer.	Winter.
Marriages . .	36,306	31,355	29,634	25,482
	Winter.	Spring.	Autumn.	Summer.
Births . . .	131,257	129,677	121,058	120,356
	Winter.	Spring.	Autumn.	Summer.
Deaths . . .	97,765	89,141	83,639	75,707

According to the Registrar-General's division of the year the temperature for the quarter is

	Winter.	Autumn.	Spring.	Summer.
Faht.	40·2	45·8	54·8	61·1

but if the Registrar-General had adopted the ordinary division of the year, the winter months, consisting of December, January, and February, he would have found that the deaths exactly followed the curve of temperature; and that instead of autumn being the next coldest quarter to winter, spring really is:—

		Winter.	Spring.	Autumn.	Summer.
Mean of 10 Years	Faht.	39·9	48·1	51·4	63·6

The Frankfort Returns for 11 years give the following:—

	Summer.	Spring.	Autumn.	Winter.
Marriages . .	$30\frac{8}{11}$	$25\frac{7}{11}$	$24\frac{8}{11}$	$20\frac{1}{11}$
	Winter.	Spring.	Summer.	Autumn.
Births . . .	$101\frac{7}{11}$	$101\frac{3}{11}$	$99\frac{5}{11}$	$93\frac{1}{11}$
	Winter.	Spring.	Autumn.	Summer.
Deaths . . .	$109\frac{9}{11}$	$106\frac{1}{11}$	$89\frac{3}{11}$	$88\frac{6}{11}$

The greatest number of marriages occur at Frankfort in summer; in England, in autumn: the least number in winter in both. The curve of deaths is absolutely the same in Frankfort and England. The same is the case with the births, with the exception of the inversion of summer and autumn, instead of autumn and summer. These coincidences are of considerable interest, as strengthening the inference that the seasons influence even social as well as physical events. The greatest number of marriages take place in England in autumn, and according to the natural course of events, the greatest number of births should occur in summer. This is not the case; winter exhibiting the maximum number. In this respect, Frankfort more closely follows the natural law than England. The greatest number of marriages occur in summer, and naturally the greatest number of births occur in winter and spring.

An inspection of the table will show what slight fluctuations there have been in 10 years. In 1833, the marriages were 252; in 1843, only

267. The births were 1,163 in 1834, and 10 years afterwards 1,255. The deaths in 1833 were 1,230, and 10 years afterwards 1,127. One feature in the monthly deaths is decidedly marked, that the average maximum of deaths for 11 years is in the month of April, as if the feeble had just been able to struggle through the intense cold of a German winter, but too much overpowered to rally. The average annual number of marriages for 10 years is $299\frac{4}{10}$; and as the population in the census for 1840 was 56,939, this gives only 1 marriage annually to 190 souls. In Great Britain, for 1841, the marriages were 1 in 130; the mean of 3 years, 1 in 128. In London, the marriages are usually 1 annually in a fraction more than 100 persons. In 5 of the principal Scotch towns, the very lowest proportion of annual marriages was in Perth, being 1 in 159, while Dundee had 1 in 111; Aberdeen, 1 in 140; Glasgow, 1 in 120; and Edinburgh, 1 in 131. The remarkable paucity of annual marriages, therefore, in Frankfort cannot be attributed to natural causes, but to that baneful restrictive policy, which interferes with the laws of nature, and is the parent of moral evils. Parties are not permitted to marry in Frankfort by the municipal laws, unless they have a certain tangible capital to commence life with, (I believe 600 florins,) and the consequences of this interference I shall proceed to exhibit.

*Births.**

The average annual births for 10 years in Frankfort and Sachsenhausen is 1205·8, namely, 617·1 males and 588·7 females. The births, therefore, are only 1 in 47·2 of the population, or 2·1 per cent.; while the proportion for England is 1 in 31 of the population, or 3·197 per cent. In France it is 1 in 33, or 3·403 per cent. The restrictions on marriage are manifest in this result; but even of this number so many are illegitimate, that the restrictions are not less prejudicial to the progress of population than to morals. The proportion of births of male to female children is 20·64 to 19·6, or 1·08 per cent. to 1·03 per cent. In England it is 10,486 to 10,000, or nearly 20·9 to 20; in France 21·3 to 20. The *Annuaire* for 1842 says 17 to 16. The birth of males to whole males is 1 in 46·4, or 2·12 per cent., and female children to total females 1 in 47·9, or 2·08 per cent.

Coming now to the consideration of illegitimate births, we find that on an average of 10 years Frankfort gives annually 74·4 boys and 74·0 girls, and for Sachsenhausen 25·3 boys and 21·2 girls, making an annual average of 99·7 boys and 95·2 girls, and a total average annually of illegitimate children of 194·9, independently of the still-born children, whose legitimacy or illegitimacy is not specified. Every 6·18 child born, therefore, or 16·16 per cent. of the whole births, is a bastard!

This melancholy result of moral feeling, unexampled in England and France (for in the former country only 1 in 16, or 6·25 per cent., and in the latter 1 in 13, or 7·69 per cent. is illegitimate), may fairly be attributed to the municipal restrictions on marriage; and if we look to the loss of children under 5 years of age, amounting annually to nearly 32 per cent. for boys and $29\frac{1}{4}$ per cent. for girls of the whole deaths, the mind is unavoidably led to connect this great loss with the disproportionate number of illegitimate births. An onerous responsibility, therefore, may rest upon those who cause this amount of deviation from moral rectitude, and also a responsibility for the possibly fearful consequences

* Table VII., see page 30.

of the deviation. The object of the restrictions on marriage is, no doubt, to guard against a pauper population; but an evil affecting the pocket must be light in comparison with the moral consequences resulting to society from pernicious efforts to guard against it.

Some discussion has taken place both in France and England whether legitimacy or illegitimacy of birth has, or has not, any effect upon the relative proportions of the sexes. The French think that the proportions born in or out of wedlock are different. In wedlock there are 16 boys to 15·023 girls, but out of wedlock the proportions are 24 boys to 23·019 girls; which gives a less preponderance to male births. The Registrar-General in England, in his Report of the 14th August, 1843, says the English returns give a result exactly the reverse of this; the legitimate boys being as 105·4 to 100 girls, while the illegitimate are as 108 to 100. The Frankfort returns support the French view, the legitimate births exhibiting the males to the females in the proportion of nearly 74 to 70½, while the illegitimate births are only as 99·7 to 95·2. Indeed in Frankfort city the male and female illegitimate births are nearly equal.

The total average annual number of still-born children is 66·1, namely, 37·3 males and 28·8 females in proportion to the whole births, being 1 in 18·2 births, or 5·4 per cent.; the males 1 in 16·5, or 6 per cent. of male births, and females 1 in 20·4, or 4·8 per cent. only.—(See Tables VIII. and IX. pp. 31, 32.)

The present table, No. VII, exhibits the deaths in Frankfort and Sachsenhausen, according to the municipal standing of the parties, distinguishing also the deaths of grown-up males from grown-up females, and males and females below the age of 14. Not having been able to obtain the details of the census of December, 1840, I cannot determine the proportion of citizens to sojourners, strangers, Jews, &c. dying annually, but I have calculated the per centages in the sexes, old and young, dying annually. The average annual deaths in the whole population for the 10 years is 2·04 per cent., or 1 in 48·8, nearly 49. This is more favourable than the average for all England, from 1838 to 1841, inclusive, which is 2·22 per cent., or 1 in 45; but the average for the South Midland, Eastern, Welch, South-Eastern, and South-Western divisions of England give 1·99 per cent. of deaths, or 1 in 50 nearly; so that Frankfort is not so healthy as those divisions, but is exactly as healthy as Essex, Suffolk, Norfolk, Monmouthshire, and Wales. Although the respective mortality of males and females, separately considered, is more favourable for Frankfort, namely, males 2·09 per cent., or 1 in 47·7, and females 1·98 per cent., or 1 in 50·2, than the average of all England, which is for males 2·30, or 1 in 43, and females 2·13, or 1 in 47. Yet there are many counties in England which have more favourable indications for life and health than Frankfort; namely, Surrey, Kent, Sussex, Hampshire, Berkshire, Wiltshire, Dorsetshire, Devonshire, Cornwall, and Somersetshire, which average for 4 years, 1838—1841, for MALES 1·98 per cent., or 1 in 50·5; and for FEMALES 1·83 per cent.. or 1 in 54·6. Had the vital statistics of the neighbouring duchies to Frankfort been mixed up with those of Frankfort, I have little doubt the numerical indications would not have been so favourable for the city; for assuredly, judging from complexion and appearance, the inhabitants of both banks of the Rhine, from Holland to Strasburg, are not so healthy as the English. The per centage deaths of all France is 1 in 39·7 inhabitants, or 2·52 per cent.

TABLE VII.—*Table showing the Births, according to the Station of the Parents, together with the Sex, Condition, and Character of the Births in Frankfort and Sachsenhausen, for 11 Years.*

FRANKFORT.

YEARS.	Births according to condition of Parents, without reference to Sex.					Sex of Births.		Condition and character of Births.							
	From Citizen Parents.	From Resident Parents.	From Stranger Parents.	From Resident Jews.	From Stranger Jews.	Boys.	Girls.	Twins.	Triblets.	Illegitimate Boys.	Illegitimate Girls.	Boys born dead.	Girls born dead.	Posthumous Births.	Total Births.
1833	567	*176	..	*69	..	435	377	5	..	67	63	†62		4	812
1834	669	31	178	61	16	494	461	18	1	73	73	38	33	3	955
1835	639	32	187	65	18	455	486	8	..	70	68	34	18	3	941
1836	673	31	159	82	15	483	477	9	..	71	67	18	27	3	960
1837	619	31	176	75	15	501	415	11	..	65	53	32	21	3	916
1838	631	31	183	68	29	478	464	2	1	63	62	23	14	4	942
1839	645	28	204	80	36	516	477	13	..	68	74	29	21	3	993
1840	677	31	221	62	20	536	475	9	..	73	79	34	20	2	1,011
1841	666	47	226	70	31	522	518	14	..	84	96	38	28	7	1,040
1842	662	37	247	64	31	533	508	15	..	89	84	33	21	5	1,041
1843	643	28	260	62	39	511	521	12	..	88	84	32	26	4	1,032
Total in 10 years	6,524	327	2,041	689	250	5,029	4,802	111	2	744	740	311	229	37	9,831

SACHSENHAUSEN.

YEARS.	No. of Births according to condition of Parents, without reference to Sex.			Sex of Births.		Condition and character of Births.								Total Births of Frankfort and Sachsenhausen.
	From Citizen Parents.	From Resident Parents.	From Stranger Parents.	Boys.	Girls.	Twins.	Three at a Birth.	Posthumous Births.	Illegitimate Boys.	Illegitimate Girls.	Boys born dead.	Girls born dead.	Total Births.	
1833	158	30	..	106	82	3	..	2	18	11	..	..	188	1,062
1834	179	4	25	117	91	1	..	2	23	17	2	3	208	1,163
1835	189	7	30	123	103	3	..	1	27	17	7	2	226	1,167
1836	169	4	33	108	93	5	..	..	25	25	8	9	206	1,166
1837	184	12	26	106	116	2	..	1	29	22	8	5	222	1,138
1838	193	5	36	120	114	4	..	1	23	22	10	9	234	1,176
1839	184	6	26	116	100	1	..	..	20	21	4	10	216	1,209
1840	180	5	31	107	109	2	..	2	20	25	2	7	216	1,227
1841	178	14	34	119	107	3	..	1	24	19	11	4	226	1,266
1842	218	10	22	116	134	4	..	1	28	31	4	5	250	1,291
1843	189	12	22	110	113	1	1	..	34	13	6	5	223	1,255
Total in 10 years	1,863	79	285	1,142	1,085	26	1	9	253	212	62	59	2,227	12,058

* Including strangers (exclusive of dead births). † Without specifying sex.

TABLE VIII.—*Table of Deaths, according to Age, in the Towns of Frankfort and Sachsenhausen.*

YEARS.	Birth to 5 Years old.		5 to 10		10 to 20		20 to 30		30 to 40		40 to 50		50 to 60		60 to 70		70 to 80		80 to 90		90 to 100		Total.		Grand Total.	Observations.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.		
On the total deaths	Per Cent. 31·9	Per Cent. 29·3	Per Cent. 1·7	Per Cent. 2·2	Per Cent. 3·5	Per Cent. 4·1	Per Cent. 9·3	Per Cent. 9·5	Per Cent. 10·3	Per Cent. 8·5	Per Cent. 9·6	Per Cent. 7·5	Per Cent. 10·2	Per Cent. 10·1	Per Cent. 11·2	Per Cent. 12·5	Per Cent. 8·3	Per Cent. 10·8	Per Cent. 2·6	Per Cent. 4·4	Per Cent. 0·18	Per Cent. 0·42	Per Cent. 51·5	Per Cent. 48·5	Per Cent. 100	In Paris under 5 = 31·9 and 29 per Cent.
On the total living	One in 149·3	One in 171·2	One in 2883	One in 2223	One in 1347	One in 1212	One in 512	One in 527	One in 461	One in 588	One in 494	One in 669	One in 464	One in 501	One in 425	One in 401	One in 571	One in 463	One in 1190	One in 1134	One in 28,693	One in 11,769	One in 48·0	One in 50·5	One in 49·3	In all England the total is 2·22 per cent., or 1 in 45; males 2·30 per cent., or 1 in 43; females 2·13, or 1 in 47.
1835	179	148	4	7	16	16	59	36	65	57	53	42	66	49	58	59	42	46	5	27	2	1	549	488	1,037	
1836	199	190	9	24	15	26	64	54	64	54	49	50	59	63	80	74	57	48	29	36	..	5	624	624	1,248	
1837	204	163	8	12	15	16	65	59	77	52	55	39	68	71	78	86	55	71	17	29	3	2	645	599	1,244	Average male deaths annually, 596·7 in 28,693 males.
1838	208	148	13	10	36	35	57	66	72	44	57	47	59	57	65	62	51	58	14	14	1	4	633	545	1,178	
1839	202	185	10	17	33	25	60	76	62	46	57	45	55	58	56	70	40	54	21	23	..	2	596	601	1,197	Ditto female deaths annually, 559·5 in 28,246 females.
1840	170	138	13	11	20	22	54	46	59	46	54	36	67	45	66	72	50	58	15	15	1	4	569	493	1,062	
1841	227	204	9	10	18	20	58	59	66	48	71	40	52	43	68	60	55	68	15	26	..	1	639	579	1,218	Total population, 56,939.
1842	166	166	14	11	10	26	41	39	50	42	65	41	61	64	68	91	53	77	12	28	1	1	541	586	1,127	
1843	175	143	13	7	29	25	46	50	47	42	62	40	70	57	68	60	49	69	15	26	1	2	575	521	1,096	
Total in 9 years	1730	1485	93	109	192	211	504	484	562	431	523	380	557	507	607	634	452	549	142	224	9	22	5,371	5,036	10,407	. . .
Average.	192·2	165	10·3	12·1	21·3	23·3	56	53·6	62·4	47·9	58·1	42·2	61·8	56·3	67·4	70·4	50·2	61	15·7	24·9	1	2·4	596·7	559·5	1156·3	. . .

	Born dead, and died in the first 4 Weeks.		Died in the 1st Year.		Died between the 2nd and 6th Year.		Died between the 7th and 19th Year.		Died between the 20th and 25th Year.		Died above 25 Years of Age.						Grand Total.	Observations.
											Males.			Females.				
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Citizens & Residents.	Officers.	Other Classes.	Single.	Married.	Widows.		
1833	88	59	90	87	37	40	23	42	41	18	229	12	138	75	119	132	1,230	. . .
1834	99	77	110	97	29	25	29	23	32	17	232	6	106	94	141	110	1,227	. . .

TABLE IX.—*Showing the Deaths in Frankfort and Sachsenhausen, according to the Condition and State of the Parties, for 11 Years.*

Years.	FRANKFORT.												SACHSENHAUSEN.										Total in Frankfort and Sachsenhausen.
	Citizens.	Residents.	Strangers.	Jewish Residents.	Jewish Strangers.	Males.	Females.	Widows.	Boys, inclusive of Dead Born.	Girls, inclusive of Dead Born.	Born Dead.	Total.	Citizens.	Residents.	Strangers.	Males.	Females.	Widows.	Boys, inclusive of Dead Born.	Girls, inclusive of Dead Born.	Born Dead.	Total.	
1833	643	351*	..	*81	..	358	108	115	193	230	51	1,075	124	31	..	32	11	17	39	45	11	155	1,230
1834	650	50	278	68	19	306	125	94	250	290	..	1,065	130	3	29	29	16	16	57	44	..	162	1,227
1835	518	37	254	41	26	286	78	83	184	245	..	876	125	7	29	21	14	20	58	48	..	161	1,037
1836	615	56	292	61	27	343	117	111	186	294	..	1,051	154	10	33	28	17	16	67	69	..	197	1,248
1837	618	67	311	59	26	348	126	137	215	255	..	1,081	131	7	25	33	20	13	49	48	..	163	1,244
1838	583	50	277	57	28	311	115	91	224	254	..	995	145	9	29	30	17	11	68	57	..	183	1,178
1839	559	46	327	61	30	279	115	107	230	292	..	1,023	145	3	26	22	10	12	65	65	..	174	1,197
1840	482	71	274	66	30	314	92	87	200	230	..	923	103	8	28	26	17	18	30	48	..	139	1,062
1841	606	74	264	56	26	346	109	105	189	277	..	1,026	155	15	22	31	12	10	73	66	..	192	1,218
1842	573	64	246	59	35	316	120	127	150	264	..	977	121	11	18	36	13	11	39	51	..	150	1,127
1843	581	67	244	49	27	326	106	113	180	243	..	968	112	5	11	24	15	8	45	36	..	128	1,096
..	5,785	582	2,767	577	274	3,175	1,103	1,055	2,008	2,644	..	9,985	1,321	78	250	280	151	135	557	532	..	1,649	11,634

	Males and Females.	Above 14.		Below 14.		All Males.	All Females.
		Males.	Females.	Boys.	Girls.		
	2·04	1·4	1·06	4·9	6·06	2·09	1·98
	1 in 48·8	1 in 67·9	1 in 94·1	1 in 23·9	1 in 16·5	1 in 47·7	1 in 50·2
England—Mean of years 1838-9-40 and 1841.	2·22	..	..	..	..	2·31	2·13
	1 in 45	..	..	..	..	1 in 43	1 in 47

* Including strangers.

Note.—As there are some amalgamations of classes in the year 1833, I have struck it out from the averages. Strangers are only enumerated who have resided a year in the city.

A remarkable feature will be observed in this latter table. While the respective mortality of males and females above 14 years of age was 1·4, or 1 in 67·9 for males, and 1·06 per cent., or 1 in 94·1 for females, the proportions were reversed in the sexes under the age of 14, namely, males 4·9 per cent., or 1 in 23·9; and females 6·06 per cent., or 1 in 16·5. The first of these per centages corresponds with the per centage mortality of male children in the English tables, between the ages of 1 and 3 only, and the per centage of female deaths with that of female children between 1 and 2. At 5 years of age, in England, 1 in 60 only is calculated to die, and yet at Frankfort there is a mortality amongst female children before they are 14, almost amounting in intensity to that of the first year after birth. The average running through 10 successive years, I should have thought there might have been some great disturbing causes, some strange anomalies in the number dying annually; but the close approximations in these numbers compel me to believe that the mortality amongst children is very considerable, and more so amongst girls than boys, contrary to the usual observations.

Educational Establishments.

TABLE X.—*Educational Establishments of Frankfort; translated from two Papers communicated to the Physico-Geographical and Statistical Society, in* 1840 *and* 1841, *by Von Ravenstein.*

	Number of Pupils.					
	1839			1840		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.
Gymnasium	160	..	160	182	..	182
*Boys' School of the Liebfrauenkirche	136	..	136	131	..	131
Model School	309	220	529	304	218	522
†Middle School	240	152	392	258	175	433
†Weissfrauen School	436	380	816	428	381	809
†All Saints' School	252	254	506	255	247	502
†The Three Kings' School	281	269	550	293	279	572
*Female School by English Ladies	..	116	116	..	120	120
*Boys' School at the Cathedral	273	..	273	253	..	253
*Female School of the Rosenberger Union	..	273	273	..	276	276
Jewish higher School	216	186	402	220	200	420
Jewish common School, free for permanent residents	20	16	36	8	11	19
Total number of pupils	2,323	1,866	4,189	2,332	1,907	4,239

The schools marked with an * are Catholic; those with a † Protestant.

The Gymnasium is the oldest of the schools in Frankfort. It commenced in 1521. It is divided into 6 classes, and has 15 teachers.

Independently of the classics and mathematics, modern languages, singing, drawing, and calligraphy are taught.

The Gymnasium is under the inspection of the Lutheran consistory.

The Protestant popular schools are constituted by a decree of the Senate, of the 17th March, 1823, under the direction of both the Protestant consistories.

The Model School has 19 instructors and 3 instructresses, and the pupils are taught the elements of religion, natural philosophy, the German language and history, mathematics, arithmetic, geography, the French language, drawing, singing; and in the girls' department needlework.

TABLE XI.—*Number of Attendances at the Middle, Weissfrauen (White Women), Allerheiliger (All Saints) and Three Kings' Schools, since their foundation.*

	Middle School.			Weissfrauen School.			All Saints' School.			Three Kings' School.			Grand Totals.
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	
1824	241	221	462	312	273	585	289	296	585	277	290	567	2,199
1825	280	258	538	347	313	660	302	288	590	289	284	573	2,361
1826	273	256	529	344	338	682	295	283	578	282	255	537	2,326
1827	281	266	547	377	350	727	290	275	565	303	279	582	2,421
1828	280	263	543	401	371	772	294	301	595	323	301	624	2,534
1829	298	263	561	417	380	797	321	307	628	337	291	628	2,614
1830	269	258	527	432	397	829	315	314	629	344	293	637	2,622
1831	254	238	492	449	405	854	310	290	600	343	293	636*	2,582
1832	248	231	479	468	398	866	307	295	602	316	273	589	2,536
1833	233	208	446	411†	347	758	299	283	582	299	263	562	2,348
1834	222	194	416	403	359	762	328	289	617	317	259	576	2,371
1835	228	185	413	445	388	833	309	284	593	310	272	582	2,421
1836	226	180	406	443	387	830	305	276	581	307	267	574	2,391
1837	229	176	405	443	387	830	299	271	570	289	260	549	2,354
1838	216	161	377	434	386	820	266	264	530	275	269	544	2,271
1839	236	154	390	436	380	816	255	249	504	281	269	550	2,260
1840	249	172	421	428	381	809	255	247	502	293	279	572	2,304
			7,952			13,230			9,851			9,882	40,915

Average . . . . 2406$\frac{3}{7}$

* In this year the Infant School at Sachsenhausen was opened, and the attendances noted in the next year's total.
† In this year a Class was discontinued; but restored in 1835.

The Middle School stands, in respect to the compass and extent of the instruction it gives, between the Model and the rest of the popular schools. It has 10 instructors and 4 instructresses. Religion, reading, calligraphy, arithmetic, the German and French languages, natural history, geography, history, drawing, and singing; and in the female department needlework is taught.

The White Ladies' School, (Weissfrauen Schule,) so called from its being held in the convent of the former nuns, called White Ladies. It was opened in 1813, and until the year 1824 had the character of the present Middle School. It has 6 instructors and 3 instructresses.

All Saints' School (Allerheiliger Schule) has 6 teachers and 3 instructresses.

The Three Kings' School, (Die Drei-Königs' Schule,) in the suburb of Sachsenhausen, is so called from its proximity to the church dedicated to those mysterious personages so well known in German religious legends. It has 6 teachers and 3 instructresses.

In these 3 last popular schools, 2 of which have existed since 1824, the children are taught religion, reading, writing, German, arithmetic, singing, the understanding of natural objects, geography; and in the female department needlework. It is to be remarked, that in all of these schools singing is taught, and in the two first the French language; but in none is the English taught.

The Catholic schools are under the direction of the Church and School Commission.

The first is the boys' school in the Liebfrauen Kirche; it has 9 teachers, and is nearly on the same plan as the Middle School.

The female boarding school, by English ladies, for the daughters of persons of the middle classes, has 4 teachers and 3 instructresses. History, German, geography, natural history, singing, arithmetic, calligraphy, drawing, and needlework are taught.

The boys' school at the cathedral has 3 teachers, and is on the footing of the Protestant common school.

The girls' school of the Rosenberger Union has 2 teachers and 4 instructresses. The usual instruction of the common or popular schools is taught in this school. The school owes its origin and name to a widow of the name of Anna Rosenberg, who in 1452 founded a community or convent of the Dominican order, for 12 daughters or widows of Frankfort citizens. Religious instruction in all the Catholic schools is given by priests.

It will be observed, that in the Catholic schools, as in the Protestant, singing is taught in all of them. The French language is taught in one, and no mention is made of the English in any.

The institutions for the instruction of the Jewish community consists of a superior and common school. Both were established in 1804 by the philanthropy of private individuals; but at a later period the State raised them to the dignity of public schools. At present there are 12 classes in the superior school, namely, 5 for boys and 5 for girls, and 2 classes for girls and boys in common. The common school has two classes for girls and boys in common. In the two schools there are 17 teachers and 5 instructresses. The inspection of the schools is in the Mixed Church and School Commission; but the management is in the hands of 3 Jewish elders and of 5 members of the Jewish community, constituting a school council.

Besides the above public schools, there are several private institutions both for males and females, on a good footing, the number of scholars attending which are stated in the following tables. A school also for the deaf and dumb; two French schools; and many private tutors for teaching foreign languages; also places where gymnastic and other exercises are taught; and infant schools; and since the 21st May, 1832, the children of the poor, between the age of 2 and 6, are attended to.

TABLE XII.—*Attendance of Pupils at Educational Schools, and those of the Fine Arts (Bildingsunstalten), during the Years* 1839 *and* 1840.

	1839 As Numbers stood Jan. 1840.			1840 As Numbers stood Jan. 1841.		
	Number of Pupils.			Number of Pupils.		
	Males.	Fem.	Total.	Males.	Fem.	Total.
Städel's Institution for the cultiva- of the Fine Arts:*—						
a. Painting	21	..	21	22	..	22
b. Drawing and Modelling .	110	..	110	95	..	95
c. Sculpture	27	..	27	4	..	4
d. Architecture	67	..	67	7	..	7
e. Copper-plate Engraving .	6	..	6	8	..	8
Total	..	..	231	..	..	136
Association for promoting the Useful Arts, and their Auxiliaries:—						
a. Sunday School for Operatives	312	..	312†	180	..	180
b. Trade and Craft School .	130	..	130	90	..	90
c. Reading Association‡ . .	..	..	..	277	..	277
Institution for the Education of the Deaf and Dumb	4	6	10	6	7	13
Institution for the Education of the Blind	5	..	5	5	..	5
Ladies' Association School§ . . .	..	50	50	..	40	40
Orphan House	122	66	188	128	70	198
Infant School in Frankfort . . .	96	56	152	73	88	161
Infant School in Sachsenhausen .	108	92	200	100	100	200
Total	777	270	1,047	859	305	1,164

* Several of the pupils are enumerated under more than one head.
† Including the Reading Association.
‡ In the year 1840 the Reading Association is separated from the Sunday School for Operatives.
§ Independently, in the year 1840, of 13 in the Charitable Institution.

TABLE XIII.—*Attendance at Private Schools during the Years* 1839 *and* 1840, *in Frankfort; from a Report by Aug. Ravenstein.*

	1839			1840		
	Numbers.			Numbers.		
	Males.	Fem.	Total.	Males.	Fem.	Total.
a, Boys' Educational Schools: those of Stallwag, Hassel, Fenner, Doctor Weil, Doctor Geison, and Behagbel.	325	..	325	408	..	408
b. Girls' Educational Schools: those of Behagbel, Bereht, Bönig, Kiefhaber, Lehn, Rumpf, and Schmidtt. . .	..	325	325	..	347	347
c. Other Private Schools:—						
Drawing Schools	..	..	*40	..	..	*38
Strobel's Drawing School . . .	..	..	60	..	..	60
Gymnastic Institution	104	11	†115	66	6	†72
Total	429	336	865	474	353	925

* Of which number 12 are taught the arts of manufactures, and 4 engraving on copper.
† This number is exclusive of 50 free scholars from the Orphan House. The attendance at the Gymnastic Institution varied according to the season. Summer of 1838 = 72; winter of 1838-9 = 58; summer of 1839 = 115; winter of 1839-40 = 66; summer of 1840 = 96; and winter of 1840-41 = 86.

TABLE XIV.—*Summary of the Attendance of Pupils at all the Schools in Frankfort during the Years* 1839 *and* 1840; *from a Report by Aug. Ravenstein.*

1839															
Number of Scholars in all the Schools, Public and Private.															
Public Schools.			Orphan Houses and Ladies' Association.			Private Schools.			Deaf, Dumb, and Blind Schools.			Total.		Grand Total.
M.	F.	Total.	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	
2,323	1,866	4,189	122	116	238	335	325	660	9	6	15	2,789	2,313	5,102
1840															
2,332	1,907	4,239	128	110	238	408	347	755	11	7	18	2,779	2,471	5,250

Scientific and other Institutions.

TABLE XV.—*Number of Members constituting the Literary, Scientific, and other Societies in Frankfort.*

	1839					1840				
	Members.					Members.				
	Effective.	Honorary.	Subscribing.	Corresponding.	Total.	Effective.	Honorary.	Subscribing.	Corresponding.	Total.
Museum	372	19	117	..	508	233	15	163	..	411
Dr. Senkenberg's Natural Philosophy Society	43	256	384	..	683	42	227	..	404	673
Physical Society	161	25	63	19	268	180	25	..	19	224
Geographical Society	124	1	..	21	146	125	1	..	24	150
Society for the promotion of the Useful Arts, and their Auxiliaries	508	30	..	197	735	500	30	..	198	728
Reading Society*	314	..	..	..	314	290	..	..	..	290
Society of Arts†	..	..	1154	..	1154	..	..	1121	..	1121
St. Cecilia Society, chiefly for Ancient and Sacred Music	139	7	..	..	146	108	40	..	..	148
The Song Garland Society	106	5	..	..	111	111	9	..	..	120
Instrumental Music Society	83	3	..	103	189	83	3	..	96	182
Ballad and Table Song Society	58	6	..	..	64	73	6	..	..	79
Orpheus Society	50	4	..	..	54	43	4	..	..	47
Vocal and Instrumental Music Society‡	100	..	..	..	100	100	..	..	..	100
Total	2058	356	1718	340	4472	1888	360	1284	741	4273

* Divided into two classes: in 1839 there were 236 of first and 78 of second class; in 1840 there were 232 of first and 58 of second class. † This Society is divided into money shares.
‡ For church music, and most of the members are honorary.

The Museum, so called, was originally an association for cultivating arts and science; but latterly it has chiefly been distinguished for its encouragement of music. It meets in the winter, every 14 days.

The Museum of Natural History is not a State foundation, but is supported by an association of members. The collection is very good, particularly in osteology, and it owes very much of its present value to the zeal, ability, and generosity of the distinguished traveller, Dr. Edward Rüppell. With a liberality worthy of imitation elsewhere, this private institution is open to the public on Wednesdays and Fridays in each week.

Senkenberg's Natural Philosophy Society was founded and named in honour of the Doctor. Its library is open on Mondays and Fridays.

The Physical Society was founded in 1824. Its objects are researches in physics and chemistry, and it has a good cabinet and laboratory.

The Geographical Society has existed since June, 1836, and with it is associated a section for statistics. It possesses suitable books, maps, charts, and relief models.

The Society for the promotion of the Useful Arts, or the Polytechnic Society, had its origin in 1817, in the formation of a Sunday school for operatives, who were taught drawing, architectural drawing, geography, &c. To this in 1828 was added the school of arts, embracing algebra, geometry, and mechanics, taught in the evenings of week days, and on Sunday evenings. In winter a reading-room was open, from 5 to 8, for the associates and pupils. In 1822 a savings' bank resulted from the institution. Horticulture and agriculture are systematically encouraged. Exhibitions of produce take place, and prizes are given.

The Society of Arts was founded in 1835. It has its exhibition of objects of arts, and prizes are given either in medals or in honourable mention.

In 1835, a society was founded for encouraging morality and good conduct amongst servants, by the annual distribution of prizes to those who had served long and faithfully; and, in 1837, an institution for teaching the blind to read was established.

The Reading Society was founded in 1788. It is managed by 6 directors, and the society consists of 2 classes of fellows: citizens who pay 14 florins annually, and those not citizens, who pay 16 florins. It is open from 9 A.M. to 9 P.M.

The Musical Associations of Amateurs are numerous and excellent; and I heard Handel's unpublished oratorio of Solomon performed by 60 or 70 ladies, and 80 or 90 gentlemen, of the society of St. Cecilia, in a manner which certainly no private association in England could equal. The first of them — the society of St. Cecilia, (Der Cäcelien verein) —was projected by the deceased Scheble, in 1818. It gets up the master-pieces of religious music of Mozart, Bach, Handel, and Haydn.

The Song Garland Society (Der Lieder kranz) meets weekly in a private room, and strangers can be introduced by the members. Its object is part singing. From this body originated Mozart's Institution, in 1838, to assist musical talent in young persons, and, when the interest of their capital amounts to 2,000 florins per annum, to found a conservatory.

The Instrumental Music Society has the object indicated by its name. It commenced in 1834.

Of the other three societies—"Die Lieder tufel," "Der Orpheus," and "Der Vocal und Instrumental musickverein," the first is for glees and table songs, and the other two for vocal and instrumental music.

Charitable Institutions.

TABLE XVI.—*Statistics of the Hospital of the Holy Ghost.*

Years.	Admitted.		Discharged Cured.		Discharged not Cured.		Died.		Per Centage of Deaths, Men.	Per Centage of Deaths, Women.	Per Centage of Deaths, Men and Women.
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.			
1834	709	654	590	533	35	32	48	39	6·77	5·96	6·38
1835	699	736	574	595	32	32	45	29	6·58	3·95	5·16
1836	1,011	795	842	704	42	20	62	44	6·13	5·53	5·86
1837	909	733	777	615	30	38	60	32	6·60	4·36	5·60
1838	1,001	885	812	740	52	37	60	36	5·99	4·07	5·08
1839	999	833	832	695	39	25	68	41	6·80	4·92	5·94
1840	930	832	748	677	48	32	62	43	6·66	5·16	5·99
1841	918	878	753	745	52	50	53	26	5·77	2·96	4·39
1842	962	890	770	729	89	58	38	28	3·95	3·14	3·56
1843	952	833	787	642	56	69	54	40	5·67	4·80	5·26
Total .	9,090	8,069	7,485	6,675	475	393	550	358	6·05	4·43	5·29
Annual Averages	909·0	806·9	748·5	667·5	47·5	39·3	55·0	35·8			

The following are the hospitals:—

Senkenberg's Citizen and Sojourners' Hospital. This was founded by Dr. Senkenberg, who in his will of the 18th August, 1763, left a large sum for the establishment of two institutions, a hospital and a school of medicine and anatomy; one-third of the sum to the former, and two-ninths to the latter. The hospital is for the reception of Christian citizens and sojourners, and in the lapse of time has been considerably enriched by donations, particularly from Simon Moriz von Bethmann, and Peter Meermann, and Madame Anna Elizabeth Klots. The interior management is truly a pattern; it makes up 110 beds. The noble founder, alas! did not live to see the completion of his work, for on the 15th November, 1772, a fall from the entablature of the well-nigh finished building closed his career. With this foundation is joined a bequest of 100,000 florins, from the senator John Charles Brönner, for the constant support of 6 old unencumbered citizens, incapable of work, who are to spend the rest of their days in peace and comfort, as residents in the hospital. A botanical garden is attached to the hospital, in which is the tomb of the founder. Under the same roof is the Senkenberg Natural History Society.

The hospital of the Holy Ghost is intended for sick Christian strangers, either domestics or operatives employed by the citizens, or sojourners. The hospital has been known since the 12th century; but the present building is modern, large, and handsome. The English servants of English resident families are received into the hospital, and a trifling daily sum is paid for their support. It can make up from 280 to 300 beds.

The present building of the Hospital for Lunatics (Das Jerrenhaus) owes its origin to a donation of 20,000 florins from the poor-box, and its continued support to the same source. It has a very good sleeping ward, and a suitable garden.

The Hospital for Epileptics forms part of the Lunatic Hospital.

There is also a Lock Hospital, under the inspection of the police; and a Military Hospital for the garrison, of 80 to 90 beds.

The Jews have a hospital for their sick, on a very good footing, with separate wards for males and females. The Rothschild family have been, and are, great contributors to this, as to other institutions for the Jews.

The general or common Poor-Box (Der allgemeine all mosen kasten) was founded in 1428, by the priest John Weissbender. Ten years later John von Holzhausen, and, subsequently, others, increased its funds by gifts, in money and in lands and rents. The executive committee distribute yearly in the 14 quarters of the town a large quantity of bread and work, besides ready money, which amounts to more than 50,000 florins (4.170*l.*) Its charity is carried to the doors of the humble poor; and the very large expenditure is kept up by legacies, and free contributions on Sundays at the Evangelical churches. Considerable though these may be, they are frequently insufficient, and the City Chest has to assist largely. Independently of the common Poor-Box, each religious community has a poor-box for its own poor; and so well are they kept from being a public spectacle and annoyance, that I must do Frankfort administration the justice to say, that during my residence of 7 months in the winter and spring of 1843–44, I never was accosted but once in the streets for charity. Each of the 14 quarters has its committee, who examine into every individual case, and prevent fraud and idleness.

Police and Criminal Courts.

The following tables are copied from official returns in the police offices; for which purpose a German friend was good enough to employ and pay a competent copyist. The table as a whole is satisfactory, although it may not quite support the impressions of some with respect to the comparative unsophistication of German habits and manners. Offences not of a criminal nature have progressively increased from 1,185 in 1840, to 1,523 in 1843. In the first year about every 56th person passed through the hands of the police; and in the last year about every 43rd person. The average annual offences not criminal is 1,347, which gives about one offence to every 49 inhabitants. Frankfort, however, has above 100 per cent. the advantage of London; where it is found that about 1 in 22 of the inhabitants passes through the police courts, chiefly, however, for drunkenness, or brawls consequent upon drinking; while in the Frankfort table there is not any entry at all of drunkenness as an offence. The two chief offences in the table are "larceny," and "quarrels, disputes, brawls." The former class of offences appears to have increased progressively and considerably, not only in the city, but in the dependent villages; for the trespasses for the most part seem to be for petty depredations, while the second class of offences, quarrels, &c., have gradually diminished. The

Germans have the characteristics of a good-humoured people, and I am somewhat surprised to find the instances of brawls and insults so numerous.

Analysis of all the Investigations and Trials, which came before the Court of Police at Frankfort during the years 1840, 1841, 1842, *and* 1843, *after the Statute of December 15th,* 1835.

	Number of Cases.				
	1840	1841	1842	1843	Total.
I. Offences against property, larceny, &c. .	281	320	374	389	1,364
II. Offences against the health of the inhabitants	58	58	47	46	209
III. Offences against public morals, modesty, namely debauchery, bullying, and concubinage	8	7	17	5	37
IV. Offences against religion.	..	..	..	..	..
V. Real insults, as fighting in the streets, house disturbances, and domestic brawls	212	165	171	146	694
VI Verbal insults	49	45	51	30	175
VII. Injuries on public property and tearing up of *court seals*, &c. &c.	4	5	..	2	11
VIII. Assistance to prisoners in escaping from the custody of the police	..	..	..	..	..
IX. Interruption of public pleasures. . . .	..	..	..	..	..
X. Offences against the censorship (laws of the press)	7	13	6	4	30
XI. Prohibited societies and meetings . . .	..	..	..	..	..
XII. Other different offences against the public peace by dangerous threatening, &c. .	6	9	3	5	23
XIII. Cruelty to animals	2	3	4	5	14
Besides these cases the police court discharged trifling offences	274	354	390	473	1,491
In the 8 villages belonging to the free City of Frankfort there were brought before the magistrates the following cases of trespasses over gardens and fields, and stealing fish. . . .	258	271	273	286	1,088
Requisitions of foreign governments were made for the apprehension of offenders.	26	31	64	132	253
Total	1,185	1,281	1,400	1,523	5,389

The paucity of offences against public property cannot fail to strike the attention, surrounded as the city is by beautiful public gardens and promenades. Offences of the press in this free state indicate that the office of censor is not an entire sinecure.

The report of the criminal court is certainly favourable as far as offences against the person go. I have elsewhere mentioned, upon verbal authority, however, that there has been but one execution for murder in Frankfort for the last 60 years; and the report shows that there are only 3 cases of supposed assassination, and 19 cases of wounding in 4 years. The Frankforters are evidently averse from shedding blood. The number of suicides 68, and attempts at suicide 13, in 4 years, considerably surprised me, for the people are neither excitable nor nervous, and they are less exposed to those extreme cases of destitution which prompt to suicide in London.

If, however, offences against the person exhibits a favourable picture, those against property are not equally so. The number of cases of robbery, both with and without housebreaking, shows that the system of watch and ward needs some improvement. The other offences against property are few in number, and unimportant; but fires, supposed incendiary, are noticed.

Reports of the Criminal Courts.

	Number of Cases.				
I. *Crimes against the Lives and Safety of the Inhabitants.*	1840	1841	1842	1843	Total
1. Assassinations	..	1	..	2	3
2. Suspected assassinations	..	..	1	..	1
3. Suicides	17	14	18	19	68
4. Attempts at suicide	3	8	2	..	13
5. Suspected rapes	..	2	..	..	2
6. Wounding	4	5	4	6	19
7. Debauchery with children	1	2	2	..	5
8. Suspected attempt at poisoning	2	1	1	..	4
9. Dead children found	3	2	..	..	5
10. Exposition of new-born children	1	1	1	..	3
11. Suspected abortions	3	1	1	..	5
12. Concealed pregnancy and accouchements	1	1	..	..	2
13. Insolence against the magistrates	..	..	1	..	1
14. Perjury	..	1	2	..	3
15. False depositions of witnesses	..	1	..	..	1
16. Deaths through being run over	1	..	..	1	2
17. Dangerously using guns	1	..	1	..	2
18. Suspicion of attempting sodomy	1	..	..	..	1
Total	38	40	34	28	140
II. *Crimes against Property.*					
1. Highway robbery	..	..	..	1	1
2. Robbery without housebreaking (above 100 florins)	36	50	34	34	154
3. Robbery with housebreaking	52	33	14	42	141
4. Receivers of stolen goods	9	..	13	14	36
5. Issuing false money	..	1	..	..	1
6. Coining	..	..	1	..	1
7. Forgery of Prussian bank notes	..	..	1	..	1
8. Embezzlements	2	5	4	..	11
9. Swindling (above 100 florins)	2	2	5	5	14
10. Fraudulent borrowing	..	2	..	..	2
11. Forgery	..	1	1	..	2
12. Gambling	..	1	..	..	1
13. Suspected incendiarism	1	1	1	..	3
Total	102	96	74	96	368

I have already stated that the prices of all provisions are fixed by the police once a fortnight; and as the means and comforts of a people can best be appreciated by the quantity they can get for their money, I subjoin one of the official prices tax proclamations, from 29th February to 13th March, 1844:—

Bread:—Price and Weight.	Weight. lbs.	Weight. oz.	Prices. Kreutzers.	Prices. Hellers.
Rye bread, second sort	4	..	12	..
Ditto ditto	2	..	6	..
Ditto ditto	1	1	3	..
Ditto first sort	6	..	19	2
Ditto ditto	3	..	9	3
Wheat, or, so called, priests' bread	1	26	8	..
Ditto ditto	..	29	4	..
Ditto ditto	..	14½	2	..
Ditto ditto	..	7¼	1	..
Milk bread	..	4¾	3	..
The inhabitants of the 8 villages who bring their bread for sale in the town market are obliged to sell at a cheaper rate; for instance:—				
Rye bread, second sort	4	..	11	..
Ditto first sort	6	..	18	2

Prices of Meat.	Kreutzers.	Hellers.
Beef per lb of 16 ounces English	13	1
Veal ditto ditto	11	1
Mutton ditto ditto	12	1
Pork ditto ditto	13	1

Beef and pork, therefore, are about 4½*d.* English per lb.; veal not quite 4*d.*; and mutton 4*d.* The butcher is obliged to add ½ an ounce (loth) to each lb.

Beer is 8 kreutzers the mug, or quart.

The price of flour per sack of 135 lbs. varies from 13 florins 8 kreutzers, to 6 florins 34 kreutzers, according to quality and the quantity of bran left in.

Rye flour 7 florins 59 kreutzers per sack.

In the same way the price of corn, hay, and straw, &c., is fixed.

The florin is 1*s.* 8*d.*; the kreutzer ⅛ of a penny; and the heller $\frac{1}{17}$ of a penny English.

Railroad.

It would scarcely be right to omit all mention of a public undertaking which is very creditable to Frankfort, not only for the manner in which it is managed, and the accommodation assured to the public, but to the cheapness of transit for individuals. It was commenced in 1837, and runs through three states, although only 43,350 metres long, from Frankfort viâ Kastel, to Bieberich. Hesse got 88,263 florins for its share of the ground, Nassau 327,813 florins, and Frankfort paid 93,497. The total cost of the ground was 523,623 florins; the buildings and construction 2,065,256 florins; the locomotives 495,207 florins; and at the end of 1840 there were 8 engines, 80 carriages, and 21 transport waggons in use. The cost of the administration 58,242 florins, which appears singularly economical. There are 4 classes of payers, the whole distance from Frankfort to Weisbaden being 2 florins 42 kreutzers; 1 florin 48 kreutzers; 1 florin 15 kreutzers; and 51 kreutzers. In the year 1839 the persons who passed were 61,766, and the money received 16,464 florins. In 1840 the numbers were 658,564 persons, and the receipts 338,374 florins: the outlay for 1840 was 140,787 florins. The whole

outlay from 1837 to 1840, including the 3,000,000 of capital, in 12,000 shares of 250 florins each, was 3,491,059 florins; and the whole outlay, including dividends and a balance of 74,795 florins, at the end of 1840, amounted to the same sum. Public confidence fluctuated exceedingly from 1837 to 1840—the 100 florin shares varying from 164 in May, 1837, to 103 in January, 1839. In December, 1840, the 100 florin share had risen to 131; and it is progressively increasing, and in February, 1844, it was nearly 148 florins.

I have now exhibited a statistical picture, in which the social body is portrayed as a piece of mechanism, the several parts of which are to perform their respective functions according to the laws prescribed for their operation: there is not to be any increase nor any diminution of action; nothing is to go out of its course. There is no doubt, a community so acting mechanically is free from many of those evils to which the unimpeded industry, speculation, and impulses of men give rise. There are few great crimes; indeed, there has been but one execution in Frankfort (for murder) since 1793; comparatively few offences against persons and property; no external and offensive indications of pauperism; immorality is veiled from the public eye; and a general appearance of well-being seems to obtain. But there is no progress; man in his social relations is at a stand-still; the past is the present, and the present is the future, both for the state and its citizens. No doubt such a state of things exhibits a certain amount of good, which may constitute an Utopia for the money-changer, the bill-broker, the commission agent, and even the merchant and banker; but which must be abhorrent to the lofty aspirations of the philosopher, the philanthropist, and the statesman, who look confidently to gradual amelioration in the moral, intellectual, and physical condition of men, societies, and states.

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ON

THE POPULATION AND MORTALITY

OF

CALCUTTA.

STATISTICS

OF

THE HOSPITALS FOR THE INSANE UNDER THE BENGAL PRESIDENCY.

By Lieut.-Colonel W. H. SYKES, F.R.S.

From the Quarterly Journal of the Statistical Society of London,
March, 1845.

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[*Read before the Statistical Section of the British Association at York, September 26th and 28th,* 1844.]

THE following paper is derived chiefly from a Report to the Government of Bengal by Dr. Strong, the civil surgeon of the Twenty-four Pergunnahs, and partly from Mr. Griffith Davies's Report on the State of the Bengal Military Fund; the basis on which the per centages are struck is a census* of the population of Calcutta, prepared by Capt. Birch, superintendent of police, in 1837, composed as follows:—

Population of the City of Calcutta.

—	Males.	Females.	—	Males.	Females.
English . . .	1,953	1,185	Chinese . . .	243	119
Eurasians . . .	2,950	1,796	Madrassies . .	30	25
Portuguese . . .	1,715	1,475	Native Christians.	30	19
French	101	59	Hindoos . . .	85,145	52,506
Armenians . . .	465	171	Mahomedans . .	38,934	19,810
Jews	185	122	Low Castes . .	12,074	7,010
Moguls	314	195		144,893	84,812
Parsees	32	8			
Arabs	272	79	Total . .	229,705	
Mugs . . .	450	233			

Setting aside all question of religious persuasion, it may thus be said that the population of Calcutta is made up of nearly 16 nations; for though the Moguls and Arabs are Mahomedans like the Mahomedans of Calcutta, they are from widely separated parts of the East; and though the Eurasians, or half castes, are the descendants of Europeans, they are necessarily a distinct people. The low castes, although natives of Calcutta, are separated by such wide religious and moral barriers from the rest of the community, that they also must be looked upon as a distinct people. Few cities, therefore, can exhibit such heterogeneous constituents as Calcutta, the remarks probably applying equally to the other Presidencies of India.

One anomalous feature in the census of Calcutta cannot fail to strike the eye of the statistician, and that is, the singular disproportion of the sexes, not only in the European population, but in every other class whatever. Amongst the English and French, and probably also amongst

* *Note by the Superintendent of Police.*—This census took a period of eight months in perfecting, and was subjected to several tests at the time, and has since been confirmed by a register of births and deaths for one year. The proportion of deaths to population being, according to the census, 3·13 per cent. per annum nearly; that of London is 2·16; which, allowing for difference of climate, is strongly confirmatory of the correctness of the census.

the Armenians and Chinese, this disproportion might be accounted for by the fact that they are only sojourners in a foreign land, and the great majority have not their families with them. But this argument will not apply to the Portuguese and half castes who are natives of the soil, and amongst whom the ordinary law regulating the relative proportions of the sexes should prevail. It might be said that the extreme reserve of the Mahomedans on the subject of their females might induce them to conceal the real numbers of their women; but this does not apply to the mass of the Hindoos, and least of all to the low castes, who have not any reserve at all in the matter. I must unhesitatingly declare that the census is not at all in accordance with the census I myself effected in the Deccan, which included 3¼ millions of souls, giving an average of 100 males to 94 females in the Poona collectorate, and 100 males to 98 females in the Dharwarr collectorate; and even in some towns the females exceeded the males, as in Bagulkoto, 100 males to 101·25 females, and in Gunness Pait, 100 males to 101·14 females, while in Calcutta, among the Hindoos, the males were 100 to 61·6 females, and among the Mahomedans 100 males to 50·8 females only.

Although the perverted will of man may, under certain circumstances, frustrate the perfect development of the ordinary laws of nature, as in the case of the Rajpoot populations of Kattywar and Cutch, yet it cannot be believed that in Calcutta any means whatever can be had recourse to to interrupt natural laws; either, therefore, the census is imperfect, or a physical fact exists of a most extraordinary and anomalous character, and in either case the matter calls for the careful consideration of the legislator and the philosopher.

The present table is auxiliary to the preceding, and shows the distribution of the population in the different districts of the suburbs, without distinguishing the sexes. It calls for no other than the passing remark, that it relates to the suburbs of Calcutta.

Census of the Population in the Suburbs of Calcutta.

Names of Thannahs.	No. of Villages.	No. of Mehals.	Resident Hindu Adults.	Hindu Children.	No. of Hindus in Service.	Resident Mussulman Adults.	Mussulman Children.	No. of Mussulmans in Service.	Native Lodgers or Passengers.	European Adults.	European Children.	East Indian Adults.	East Indian Children.	Total Inhabitants.
Thannah Sulkeah .	132	258	33,223	20,342	*8,106	12,154	4,395	*2,019	3,153	43	24	63	49	73,446
Ditto Chitpore . .	8	33	14,177	5,286	984	1,627	601	199	875	93	7	53	1	22,650
Ditto Manicktulah .	31	42	20,627	6,173	30,100	13,201	9,661	3,099	3,883	411	67	759	123	54,935
Ditto Tanjeeraut . .	29	84	22,032	5,349	1,120	8,601	2,755	647	5,072	54	15	45	27	43,950
Ditto Nowhazaree .	1	28	8,465	2,689	799	5,845	2,214	987	2,818	63	3	50	65	22,212
										Grand Total				217,193

* The columns are not included in that of the Total.

The following table, on Dr. Strong's authority, exhibits the deaths monthly amongst the native population for a period of 11 years, the year

1831 being struck out as imperfect. In Europe it is found that the mortality follows very nearly the annual curve of temperature, the deaths being greatest in the winter months and least in the summer months. To this there is a singular exception, Dr. Alison finding that the maximum of deaths occurs in the month of April. The following table manifests the operation of the same law within the tropics, even to the exception. The annual average of deaths is 11,075: while the coldest months in the year—November, December, January, February, and March—approximate to, or are above, the average; while the mild and moist months of the year are all considerably below the average; April, as has been observed, is an exception, the greatest mortality occurring in this month. The hot season may be said to commence at the end of March, and its greatest intensity is towards the end of May and first week in June. The maximum mortality, therefore, is not dependent upon the maximum of heat. The rains commence usually before the middle of June, and the air then becomes mild and moist. The minimum mortality occurs in June, and it will be observed that it gradually increases with the monthly fall of temperature until November, when the greatest mortality occurs, excepting in the month of April. Considering that the thermometer never approaches the freezing point, it is somewhat curious that the relative cold of the tropics should appear to operate similarly upon the human frame as the absolute cold of extra-tropical countries. The fluctuations in the annual mortality in this table point out to the statistician with what caution he should strike his average per centages as types of natural laws. There is scarcely a period in the 11 years' mortality in which, if a per centage were struck for 3, or even 4 or 5 years, a fallacious result, a false type in fact, would not be produced, owing to the anomalies. Even the lengthened period of 11 years does not give a satisfactory annual per centage, more particularly so as the census of 1837 has been taken as a fixed element in the calculation, without reference to the annual movement in the population:—

Abstract Statement of Deaths among the Native Inhabitants of the City of Calcutta during the following Years, showing the Number per Month, the Grand Total, and the Average Rate per Cent. as per last Census.

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Grand Total.	Average per Cent. per last Census.
1831	No Returns.		179	456	342	325	384	463	589	682	1,067	753	5,240	2·90
1832	880	571	691	637	754	511	616	759	885	951	988	1,065	9,308	4·28
1833	1,167	1,170	1,519	1,710	1,209	683	898	1,088	1,657	1,788	2,449	2,185	17,523	8·07
1834	1,068	732	891	1,326	1,296	589	938	1,224	983	1,198	1,564	1,238	13,067	6·02
1835	867	624	683	662	673	492	633	568	676	771	870	693	8,112	3 78
1836	637	535	640	692	628	600	628	733	638	770	713	641	7,895	3·63
1837	652	562	631	661	725	1,034	733	763	661	645	669	728	8,464	3·89
1838	674	721	1,651	2,389	1,434	549	487	632	663	628	767	798	11,393	5·24
1839	606	599	577	604	465	484	588	594	502	756	851	1,349	7,975	3·67
1840	1,326	1,356	1,349	1,095	854	555	746	807	834	706	1,101	1,001	11,730	5·40
1841	970	1,271	1,487	2,424	831	594	772	667	791	864	1,282	1,332	12,255	5·66
1842	2,132	2,241	1,132	2,199	1,037	445	618	634	586	851	1,172	1,069	14,111	6·52
	10,979	10,382	11,291	14,399	9,906	6,536	7,687	8,469	8,876	9,920	12,426	11,999	121,833	

Average 11,075

The following table exhibits the mortality among all classes in Calcutta for 20 years, but for the native population only 11 years. There are some trifling discrepancies in the annual amount of deaths among the natives between this and the preceding table, but I must leave them as I found them, being unable to explain the cause of the discrepancy:—

Deaths among all Classes in Calcutta, for 20 Years (1817—1836.)

Years.	Protestant	Burials.	Catholic Burials, D. Rozario.	Catholic Burials, Boitoc-kanah.	Greeks	Armenians	Indo-Armenians.	Native Christians
1817	216	Scotch burying-ground began 1826.	313	169	4	10	3	..
1818	272		211	159	2	20	3	..
1819	275		284	158	..	23	3	..
1820	281		282	136	..	17	1	..
1821	246		277	172	..	16	3	..
1822	324		294	140	..	16	2	..
1823	270		277	156	..	10	2	..
1824	278		282	188	..	21	1	..
1825	297		285	154	1	12	10	..
1826	275		309	145	2	19	17	..
1827	254	11	308	174	..	15	16	4
1828	256	19	250	170	2	15	12	3
1829	184	21	209	146	3	12	16	2
1830	224	26	236	138	1	14	15	..
1831	186	29	236	122	3	17	19	8
1832	217	25	269	121	1	17	16	1
1833	302	30	288	204	2	23	14	5
1834	281	35	257	199	2	16	17	4
1835	233	18	233	115	1	7	16	4
1836	197	26	188	104	..	15	13	3
	5,065	240	5,288	3,070	24	315	199	34
	20	10	20	20	12	20	20	9
Avge.	253	24	264	153	2	15¾	10	2⅓

Native Deaths for 11 Years (1832—1842)

Hindoo . . 8,299	9,308 in 1832.	Hindoo . . 9,802
Mussulman . 1,009		Mussulman . 1,514	11,316 in 1838.
Hindoo . . 15,138	17,523 in 1833.	Hindoo . . 6,570
Mussulman . 2,385		Mussulman . 1,405	7,975 in 1839.
Hindoo . . 11,167	13,067 in 1834.	Hindoo . . 9,027
Mussulman . 1,900		Mussulman . 2,703	11,730 in 1840.
Hindoo . . 6,873	8,102 in 1835.	Hindoo . . 8,667
Mussulman . 1,229		Mussulman . 3,588	12,255 in 1841.
Hindoo . . 6,366	7,881 in 1836.	Hindoo . . 9,955
Mussulman . 1,515		Mussulman . 4,156	14,111 in 1842.
Hindoo . . 7,097	8,464 in 1837.		
Mussulman . 1,367			

From the above are deduced the following results:—

Census of 1837.		Deaths.	Per Cent.
157,473.	The annual average of deaths for 11 years—Hindoos,	8,996	= 5·71
59,604.	Ditto ditto Mussulmans,	2,070	= 3·47
3,350.	The annual average of deaths for 20 years—Catholics,	417	= 12·44

Mr. Griffith Davies, F.R.S., in his Report on the State of the Bengal Fund, gives, at page 49, the rate of mortality amongst Bengal Military European officers; and, as it shows some novel and interesting facts, I insert it.

The mortality of *single* persons from 1824 to 1832 was—	Per Cent.		Ditto *married*—	Per Cent.	
Colonels	7·02		4·85		
Lieutenant-Colonels	6·38	4·12	3·92	3·75	
Majors	2·76		2·96		
Captains	4·18		2·55		
Lieutenants	3·74	3·76	2·06	2·31	
Ensigns	3·61		1·59		
All ranks collectively	3·77		2·74		

It would hence appear that the lives of married men are better than those of unmarried men.

The following per centage of deaths by particular diseases in Calcutta is given in the report to Government by T. Pemble Strong, Esq., surgeon, Twenty-four Pergunnahs:—

By Diseases	Cholera	Amongst Mahomedans	0·92	Per Cent. of all Deaths.
		Amongst Hindoos	1·31	
	Small-pox	Amongst Mahomedans	11·9	
		Amongst Hindoos	22·8	
	Various Diseases	Amongst Mahomedans	1·73	
		Amongst Hindoos	3·80	

I add to the above details of the mortality in Calcutta a curious fact, that in the Orphan School in Calcutta only 1 death took place between 1st October, 1842, to 30th September, 1843, in 270 children, although the admissions to the school hospitals amounted to 381—cholera cases 9, diarrhœa 18, dysentery 43, fevers 198.

The average monthly cost of each of the 270 scholars was Rs.10 11A. 8½P. The out wards were 2,086; the monthly expense of each was Rs.3 9A. 6¾P.

Mortality among Insane Patients at Calcutta and Madras.

——	Cases treated.	Died.	Deaths per Cent.
The deaths in the Calcutta Presidency Native Insane Asylum, in 10 years, from 1833 to 1842, were	2,685	454	16·90
Madras Lunatic ditto for 1843	77*	7	9·1

* Cured 4, discharged 10.

The next table (p. 7) has the defect of the others, and from the same causes, of affording approximations to the truth only: it shows, however, the fluctuating per centages of mortality in the different classes, when struck for a year or irregular periods of time; and it is so far useful as a beacon to the statistician. One feature of a marked and unusual character catches the eye at the first glance, and that is, the mortality amongst the Catholics. The average per centages of mortality being struck for various periods of time, in no instances is it found to be less than 9·18 per cent.; and for 20 years, up to 1835, the average is as high as 12·48 per cent. I know of no cause for such continued mortality, but which cannot be the result of accident.

Statement of the Mortality per Cent. among the different Classes of Inhabitants in Calcutta per Census, and Tables of the Mortality for 5, 8, 10, 20, and 23 years.

Denominations.	Population per Census.	Mortality per Tables of Mortality and Registers of Burials.												Average Mortality of the several Classes and Periods ascertained.						General Mortality of Calcutta as far as ascertained.	
		For 5 Years ending 1836.		For 10 Years ending 1836.		For 20 Years ending 1836.		For 1837.		For 1838.		For 1839.		For 8 Years.		For 13 Years.		For 23 Years.			
		Died Annually.	Per Cent. per Annum.	Died Annually.	Per Cent. per Annum.	Died Annually.	Per Cent. per Annum.	Died.	Per Cent.	Died.	Per Cent.	Died.	Per Cent.	Died Annually.	Per Cent. per Annum.	Died Annually.	Per Cent. per Annum.	Died Annually.	Per Cent. per Annum.	Died Annually.	Per Cent. per Annum.
Christians, Scotch Burials	7,884	..	..	24	..	..	3·51	34	3·34	40	5·43	45	3·94	..	..	35¼	..	..	3·55		
Protestant						253		230		231		265						244¼			
Catholics, Principal Church	3,341	..	..	..	..	264	12·48	251	10·56	266	11·64	233	9·18	..	..	..	..	253¼	10·97		
Ditto, Boitockanah Church						153		102		123		74						113			
Armenian	636	..	..	..	..	15	3·93	23	4·87	15	4·56	20	4·56	..	..	..	..	18¾	4·48		
Indo-Armenian						10		8		14		9						10¼			
Total Christians	11,861	..	..	24	..	695	6·06	648	5·46	689	5·81	646	5·44	..	..	35¼	..	639¼	..		
,, Mahomedans	59,622	1,607	2·69	..	..	..	..	1,367	2·29	1,514	2·53	1,405	2·35	1,473	2·47	..	..	..	..		
,, Hindoos	157,418	9,569	6·7	..	..	..	..	7,097	4·50	9,802	6·22	6,570	4·17	8,260	5·24	..	..	..	..		
,, of all Classes	228,901	11,176		24	+	695	5·20	9,112	3·98	12,005	5·24	8,621	3·76	9,733	+	35¼	+	639¼	..	+10,448¼	4·54

In the following tables, furnished by Dr. Strong, of the proportions of one class of the community to another, and the proportionate mortality of each class to that of other classes, it would appear that the whole of the Eurasians, or half castes, have been considered as Protestants, and the whole of the low castes have been added to the Hindoos. It would have been much more satisfactory had the relative proportions of each class been stated separately. The proportional mortality has been deduced from the average annual mortality, applied to the census of 1837, without reference to the annual movement of the population, the results are necessarily only approximations to the truth. I am not quite satisfied, either, that all the calculated proportions are correctly done. By the census of 1837 there are 59,604 Mahomedans of all nations, and 157,473 Hindoos of all castes; the proportion, therefore, is one Mahomedan to 2·64 Hindoos, and not 1 to 3½ Hindoos; but as some of the other proportions are correctly deduced from the census of 1837, the figure may be a typographical error. From this table it would appear that the Mahomedan is the healthiest class; the Protestant next; then follow the Armenians; the Hindoos are fifth on the scale; but most singularly the Catholics are, out of all proportion, the greatest sufferers of the whole community, not accidentally or casually so, but from a lengthened period; and as there is no effect without its cause, this unusual waste of human life calls for the grave investigation of the Government; and not less, also, is it matter of inquiry to ascertain why the mortality of the Hindoos is 5·71 per cent. while that of the Mahomedans is only 3·47.

PROPORTIONS.

Census.

			Mahomedans, 1 to	Hindoos.
		Protestants, 1 to	7½	20
	Catholics, 1 to	2⅝	18	47⅛
Armenians, 1 to	5¼	12⅛	93⅜	247½

Annual Mortality.

			Hindoos, 1 to	Catholics.
		Armenians, 1 to	1⅛	1⅝
	Protestants, 1 to	1⅜	1⅝	3 1/13
Mahomedans, 1 to	1 5/13	1⅝	2⅜	4 5/12

The following table of the deaths amongst prisoners formed part of Dr. Strong's Report to Government, and is introduced here to exhibit the effects of the climate of Calcutta and neighbourhood upon a class of persons, who elsewhere, although employed upon the public roads, and usually in the open air, are dreadful sufferers. The mortality (nearly 8 per cent.) is no doubt high, but it bears a favourable comparison with the mortality in many other jails in India.

Abstract Statement of Deaths among the Prisoners of the Allipore and Russapaglar Jails, and different Guards in the Twenty-four Pergunnahs, during the following years, showing Number per Month, the Grand Total, and the average Rate per Cent.—1711$\frac{7}{10}$, being the average Number of Prisoners throughout the period; more than two-thirds of those are Prisoners for life, the rest temporary, like all other Zillah Prisoners; showing the three months of greater Mortality to be the cold-weather months, as in Calcutta.

Years.	January.		February.		March.		April.		May.		June.		July.	
	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.
1820	1,833	30	1,903	13	1,996	20	1,921	16	1,940	16	1,831	9	1,807	16
1821	1,816	17	1,809	10	1,832	11	1,927	12	1,974	11	1,995	7	1,894	10
1822	1,795	18	1,805	7	1,879	13	1,799	11	1,848	4	1,851	3	1,889	9
1823	1,629	11	1,644	10	1,595	10	1,593	7	1,635	6	1,571	10	1,511	10
1824	1,481	6	1,529	11	1,426	9	1,375	6	1,403	8	1,328	11	1,228	7
1825	1,599	6	1,498	10	1,434	17	1,463	18	1,249	17	1,187	8	1,139	9
1826	1,117	7	1,137	4	1,138	2	1,161	3	1,129	14	1,142	6	1,148	6
1827	1,179	6	1,212	4	1,116	7	1,153	7	1,226	15	1,232	1	1,298	2
1828	1,227	11	1,153	7	1,260	23	1,299	11	1,338	7	1,304	5	1,287	8
1829	1,327	15	1,289	4	1,376	6	1,330	12	1,335	6	1,386	5	1,434	8
1830	1,486	3	1,552	6	1,457	8	1,497	4	1,536	6	1,536	10	1,564	6
1831	1,474	19	1,575	10	1,586	11	1,651	9	1,632	16	1,619	11	1,635	7
1832	2,219	23	2,013	7	1,924	22	1,909	11	1,944	10	1,984	6	2,227	4
1833	2,067	12	2,118	13	2,372	28	2,170	11	1,918	7	2,117	7	1,982	10
1834	2,322	18	2,807	9	2,317	13	2,154	14	2,147	9	2,111	10	1,988	14
1835	2,109	23	2,188	7	2,211	11	2,037	13	2,035	14	2,225	9	2,118	6
1836	1,806	8	1,776	5	1,720	3	1,894	9	1,829	6	1,796	7	2,103	7
1837	2,021	10	1,928	3	1,953	9	1,947	4	1,982	8	1,984	15	1,912	8
1838	2,025	8	2,046	7	2,159	8	2,143	11	2,121	12	2,203	10	2,237	9
1839	2,215	10	2,242	12	2,130	8	2,089	13	2,109	8	2,087	16	2,125	5
	34,747	261	35,224	159	34,881	239	34,512	202	34,390	200	34,489	166	34,526	161
Per cent. per ann.	1,737	904	1,761	539	1,744	820	1,726	701	1,719	700	1,724	574	1,226	562

Years.	August.		September.		October.		November.		December.		Grand Total of Prisoners.	Grand Total of Deaths.	Average Number of Prisoners.	Deaths per Cent.
	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.				
1820	1,821	9	1,700	11	1,705	13	1,681	10	1,750	16	21,888	179	1,824	9·81
1821	1,778	16	1,772	20	1,762	9	1,759	24	1,762	20	22,080	170	1,840	9·24
1822	1,681	11	1,612	11	1,597	20	1,571	9	1,544	14	20,871	130	1,739	7·47
1823	1,416	12	1,386	10	1,404	14	1,394	9	1,385	9	18,163	118	1,514	7·79
1824	1,293	7	1,290	11	1,295	3	1,491	4	1,559	4	16,698	87	1,391	6·25
1825	1,151	13	1,051	15	1,173	8	1,122	12	1,088	7	15,154	140	1,263	11·08
1826	1,138	7	1,157	3	1,177	6	1,113	3	1,140	6	13,697	67	1,141	5·87
1827	1,304	5	1,210	7	1,271	8	1,242	6	1,198	5	14,641	73	1,220	5·98
1828	1,308	3	1,327	3	1,287	6	1,365	6	1,301	10	15,454	100	1,288	7·76
1829	1,466	5	1,386	6	1,459	3	1,487	4	1,886	12	17,221	86	1,435	5·99
1830	1,573	10	1,566	8	1,553	23	1,521	29	1,889	21	18,730	134	1,561	8·58
1831	1,615	11	1,545	12	1,531	29	1,945	29	2,081	23	19,893	187	1,658	11·27
1832	2,047	11	1,706	12	1,964	19	2,153	24	1,909	27	23,999	176	2,000	8·80
1833	1,991	21	2,037	23	2,217	37	2,087	33	2,209	29	25,285	231	2,107	10·96
1834	1,872	16	1,879	17	1,896	28	1,785	19	1,913	22	25,191	189	2,099	9·01
1835	2,013	8	2,002	9	1,843	7	1,836	7	1,883	10	24,500	124	2,042	6·07
1836	2,024	11	1,869	8	1,873	12	1,706	13	1,876	11	22,272	100	1,856	5·38
1837	1,916	8	1,939	6	1,938	8	1,961	12	2,048	10	23,529	101	1,961	5·15
1838	2,191	9	2,221	12	2,160	11	2,155	13	2,165	19	25,826	129	2,152	5·99
1839	2,170	6	2,217	5	2,179	11	2,175	16	2,062	19	25,800	129	2,150	6·0
	33,758	202	32,872	209	33,284	275	33,553	282	34,656	294	410,892	2,650	34,241	7·75
Per cent. per ann.	1,687	717	1,643	761	1,664	991	1,677	1,007	1,732	1,016	..	..	1,712	..

These details have little beyond novelty to give them a claim to the attention of the statistician of Europe. The elements on the face of them give rise to doubts of their accuracy, and the deductions from them necessarily have not that rigid character of truth which would admit of their being put into juxtaposition with deductions of a similar nature obtained in Europe; but they have a certain amount of interest, so far as they go; and in time it is to be hoped that such attention will be paid to statistics in India as will permit the facts collected to be placed in the same category with those obtained in Europe.

Statistics of the Hospitals for the Insane under the Bengal Presidency.

By Lieut.-Colonel W. H. Sykes, F.R.S.

[*Read before the Statistical Section of the British Association at York, September 28th*, 1844.]

The following tables and notes are derived from the Official Reports of the proper Officers to the Government of Bengal.

There are four hospitals for the insane under the Presidency of Bengal, namely, that of the Twenty-four Pergunnahs, otherwise Russa, that of Moorshedabad, of Dacca, and of Patna.

The rate of cure and mortality in the years 1839 and 1840, in the several insane hospitals, is shown in the following statement:—

Division.	Year.	In Hospital on 1st January	Admitted in the Year.	Total.	Number Cured and discharged.	Rate of Cures.	Number Died.	Rate of Mortality.
Twenty-four Pergunnahs, or Russa	1839	133	130	263	95	$36\frac{1}{8}$	34	13
	1840	133	125	258	80	31	28	11
Moorshedabad	1839	63	43	106	26	$24\frac{1}{2}$	25	$23\frac{1}{2}$
	1840	55	42	97	38	39	8	$8\frac{1}{10}$
Dacca	1839	87	98	185	60	$32\frac{80}{185}$	17	$9\frac{35}{185}$
	1840	108	86	194	48	$24\frac{144}{194}$	24	$12\frac{72}{194}$
Patna	1839	41	44	85	18	21	28	32
	1840	39	48	87	32	32	18	21

The average cures in all the hospitals in 1839 were 31·7 per cent., and the deaths were 16·2 per cent. In 1840 the cures were 31·1 per cent., and the deaths 12·2 per cent.

The rate of mortality in the Calcutta Native Insane Hospital for 10 years, from 1833 to 1842, is stated to be 16·90 per cent., there having been 2,685 cases treated, of which 454 patients died.

In the Madras Lunatic Asylum for 1843 there were 77 patients treated, of whom 4 were discharged cured, and 10 discharged not cured, and 7 died, or only 9·3 per cent.

With reference to the very large per centage of discharged cured in the above and the following tables, I understand that lunatics, whose malady has become so much ameliorated as to render them harmless, are frequently sent to their friends, and are included amongst those stated to be discharged cured.

The following table exhibits the admissions into the hospital of the

Twenty-four Pergunnahs, or Russa, for a period of 25 years, together with the annual expense of maintaining the lunatics. It would appear that, in that period, 2,957 patients were received, and 186 were in hospital in 1816; the total, therefore, 3,143. The total expense for that period was 243,332 rupees, the average annual number of patients being a fraction more than 125, and the average annual expense 9,733 rupees, or about 77 rupees (7*l.* 14*s.*) each patient annually, which is a fraction less than 3*s.* a-week for each patient, and this includes all charges of diet, clothing, medical attendance, &c.

Insane Hospital, Russa (Twenty-four Pergunnahs).

Years.	Number of Patients at the end of each Year.	Number of Admission.	Annual Expense.	Remarks by the Medical Officer in Charge.
			Rupees.	
1816	186	122	10,100	
1817	170	115	17,346	
1818	168	85	15,929	
1819	155	80	12,724	
1820	174	109	13,370	
Total	853	511	77,472	
1821	155	99	11,912	Some time after I had been in charge of the establishment, I found the drainage behind the southern apartments so bad, and the rooms so damp, that, after consulting the builders, Messrs. Goss and Shadwell, who made a plan of the asylum, which has been lost in some of the public offices, I reported upon it. The result was the making a compound south of the building, and changing the doors from the north side to the opposite, which was a considerable improvement as far as airiness and dryness were concerned; but the drainage is still very bad, and the water not running off readily, it is difficult to keep the ground-floor clean. After the application of Mr. John Master, the magistrate, and myself, in 1832, to get the entire floors repaired, finding a difficulty in getting it done, with the consent of that gentleman I procured bamboos, and the insane themselves made their own mutchans of them, being split and tied together for that purpose. Those answered tolerably well, certainly better than letting the insane lie on a damp pucka broken floor. But an insect the natives call "Ghoon," peculiar to the bamboo, after about two years, was so destructive that the bamboo mutchans were removed, and the present wooden ones made by Government, and fixed in their place. Still great dampness prevailed from the bad state of the ground-floors; and ventilators were about two years ago made in the ceilings; but the present establishment never can be fit for its inmates until the entire ground-floors and verandahs undergo the repair recommended by the superintending surgeon, Dr. Sawers, in 1836.
1822	135	108	10,640	
1823	112	88	7,530	
1824	102	127	7,935	
1825	106	94	6,929	
Total	610	516	44,990	
1826	105	99	7,172	
1827	109	100	7,478	
1828	109	132	8,180	
1829	149	134	8,435	
1830	143	129	8,543	
Total	615	594	39,808	
1831	120	143	8,734	
1832	121	116	7,042	
1833	121	158	8,064	
1834	125	146	8,011	
1835	137	126	7,586	
Total	624	689	39,437	
1836	116	144	7,929	
1837	144	116	8,057	
1838	133	132	8,554	
1839	133	130	8,183	
1840	150	125	8,902	
Total	676	647	41,625	

Rate of Mortality in Russa Lunatic Asylum (Twenty-four Pergunnahs), as deduced by the Medical Officer.

—	1833	1834	1835	1836	1837	1838	1839	1840	1841	1842	Average.
Per Cent.	26·16	26·21	15·13	20·0	16·38	15·58	12·92	10·85	9·64	14·76	16·90

Mr. Patten, the sessions' judge, reports to Government that the occupations of the lunatics are sewing, planting, transplanting, picking, drying, and sifting of coffee. Some coffee was shipped in 1831, after five years, to England, and the brokers reported favourably of it. Bourbon, Sea Island, and Upland Georgia cotton is cultivated with success. Sugar is produced from the Otaheite canes, and the sugar is approved by the Agricultural Society. Thousands of cuttings are sent to the coast. The cactus opuntia and the cochineal insect is cultivated; and two pieces of cloth, coloured with five grains of the cochineal, bears favourable comparison with Mexican; and Dr. O'Shaughnessey speaks favourably of it as a dye. Sappan wood is successfully cultivated; and seeds are sent to Australasia. The lunatics plant bamboo and Mysore thorn for hedges, and the Spanish annatto, mulberry, and cassida; also the aloe, for gum and fibre for ropes. The females spin, and beat, shell, and pick rice, and prepare fish, spices, and vegetables for the cook-room, and about $\frac{1}{10}$ of the males and females cook their own food.

The hospitals are not generally constructed to admit of classification.

The expense of the Russa Hospital for 1840 (Twenty-four Pergunnahs) was—

Lunatics, Daily Average.	Total Number Dieted Per Annum.	Total Cost for Diet Per Annum.	Total Cost for Clothing per Annum.	Total Cost for Servants.	Grand Total.	
		Rupees.	Rupees.	Rupees.		Rupees.
146¾	53,398	4,717	609	2,507	Natives. .	7,834
					Half Castes.	1,068
						8,902

Per Head Per Mensem.	Clothing Per Head Per Mensem.	Clothing for Servants Per Mensem.	Total Expense Each Patient Per Mensem.	Expense Half Caste Patients, at 20 Rupees Each.
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
2 10 3	0 5 9	1 6 10	4 6 10	1,068 5 6

Native doctor, Rs.200 per annum (£20).
Native servants, Rs.5 3A. 7P. to Rs.4 per mensem (10*s.* to 8*s.*)
Diet contracted for at Rs.3 per head per mensem, or 6*s.*

The following rates of mortality amongst lunatics in Europe and America is introduced in the report to Government by the medical officer:—

—	Cases Treated.	Died.	Per Cent.	Authorities.
England, Scotland, France, and America	18,185	4,793	26·35	Lancet for 1838—39, p. 223.
Cork Lunatic Asylum, 1834.	750	221	29·0	Ditto.
Six District Asylums, 1837	788	165	21·0	Ditto.
Charenton, Paris	1,557	546	35·6	Ditto.
Lancaster	1,750	577	32·97	Pritchard, p. 143.
Hanwell, six years	..	..	27·5	Lancet.
Savoora, Italy	..	..	42·50	Ditto, 1836—37.
English County Asylums	..	..	28	Ditto, 1838—39.
Irish Asylums	..	..	28	Parliamentary Returns, 1838.
York Retreat	..	..	20	Lancet, 1836—37.
Wakefield	..	..	24	Ditto.
Cork	..	..	30	Ditto.
French hospitals in general	..	..	22	Ditto.
Lancaster	..	..	24½	Ditto.
Charenton, Paris	..	..	25	Ditto.
Saint Luke's and Bedlam, males	4,417	774	17	Ditto, 1838—39.
Paris, Salpetriere, 10 years	2,804	790	28·3	French Report.
London and Middlesex, 10 years ending 1840.	2,029	656	32·33	Dr. Connolly's Report, 1840.

In the Russa Lunatic Asylum for 10 years, 1833 to 1842 inclusive, the per centage mortality has declined from 26·16 per cent. to 9·64 (1841), and 14·76 per cent. (1842).

There is in the following return, as with the preceding returns, some discrepancies in the totals. The total number admitted, in 5 years, was 227; and there were in hospital, in 1835, 43 patients; the total number dealt with therefore, it appears to me, could only have been 270, and not 480; and as there were 88 deaths, the total loss in 6 years upon the numbers admitted was 32·5 per cent., and not 18 as stated. On the same principle as 270 patients only were recovered in 6 years, and 146 discharged, the per centage for that period was 54 per cent., and not 30 as stated.

Statement showing the Rates of Cures and Mortality from 1835 *to* 1840.—*Patna Asylum.*

Years.	In Hospital.	Admitted.	Total.	Number Entered and Discharged.	Rate of Cures per Cent.	Number Died.	Rate of Mortality per Cent.	Remarks.
1835	43	35	78	18	26	7	10	
1836	53	31	84	37	48	7	8	
1837	40	32	72	18	26	17	22	Some cases of cholera occurred this year.
1838	37	37	74	23	31	11	14	
1839	41	44	85	18	21	28	32	An outbreak of cholera occurred in April and May.
1840	39	48	87	32	32	18	21	Some cases of cholera occurred this year.
Total.	253	227	480	146	184	88	10·7	

Average cures . . 30 per cent. | Average mortality . . 18 per cent.

(Signed) S. Davies, *Civil Surgeon.*

I have thought a knowledge of the previous stations of the lunatics might interest the European statistician, and therefore give the following list of the occupations, and of the number of persons belonging to each occupation, prior to their admission into the hospital at Dacca.

1 Attorney.
1 Beggar.
2 Boatmen.
3 Brahmins.
3 Burkendaze.
1 Buddeah.
1 Bullock-keeper.
3 Byragees.
1 Carpenter.
3 Chuprassees.
1 Confectioner.
1 Coolie.
19 Cultivators.
1 Darogah.
4 Fishermen.
5 Fakeers.
1 Goldsmith.
1 Hurkerah.
1 Khitmaghers.
1 Khootes.
1 Khumkar.
1 Lateeal
1 Mallah.
2 Masons.
2 Mehters.
4 Milkmen.
1 Mohurrir.
1 Mollah.
1 Patnee.
7 Prostitutes.
1 Peon.
1 Rajagur.
1 Shopkeeper.
2 Slaves.
2 Sepoys.
4 Servants.
1 Silver-thread maker.
1 Sheep-keeper.
1 Shoemaker.
1 Syce, or Groom.
2 Tailors.
1 Talookdar.
1 Trader.
4 Weavers.
1 Wheat-grinder.
13 Occupations not known.

111

The patients are divided into private and criminal. The former are persons who have been confined at the request of their friends, or by orders of the magistrate, to prevent their doing mischief. The latter are individuals who have been tried and convicted before a court of justice of some heinous offence; of this class there are 21 in the asylum at present, namely, 12 Hindoos and 9 Mussulmans, of whom—

3 are fratricides.
2 are matricides.
1 is a parricide.
2 confined for murdering their slaves.
2 ditto for murdering their wives.
1 ditto for murdering his betrothed.
4 ditto for wounding and manslaughter.
1 confined for arson.
1 ditto for stealing a boat.
1 ditto for illegal seizure and concealment of a man.
1 ditto for absconding with a man's wife.
1 ditto for attempting suicide.
1 ditto for having committed a rape.

Eleven of these criminal patients have fetters on their legs, and 10 of them only iron rings on their ankles.

The proportions of the different religious denominations in this hospital were—

—	Hindoos.	Mussulmans.	European.	Total.
Males . . .	48	45	1	94
Females . . .	11	6	0	17
Total . .	59	51	1	111

I believe it has been remarked by medical men, that tropical climates are singularly free from cases of lunacy, compared with the climates of extra-tropical regions; but no evidence of the fact has fallen in my way. The preceding details, however, extracted from reports to the Bengal Government, will assist to fix this opinion upon a basis, which, if not entirely satisfactory, suffices to remove it from the region of speculation. Under the Bengal Presidency and Government of the North-West Provinces, comprising a population estimated to exceed 72,000,000 of souls, it is found that four asylums in 1840, having 639 patients, are sufficient

to receive all the lunatics that it is thought necessary to confine amongst that vast body of people; while in England and Wales, according to the recent Report of the Commissioners on Lunacy, there are 166 asylums, 16,735 pauper lunatics, and 1 pauper lunatic to every 980 of the population, besides 4072 private patients. I am not aware that there is more than one asylum at Madras, with 13,000,000 of souls; and there is only one at Bombay (with two trifling auxiliary establishments at Poona and Surat), for 6,000,000. Of course it is to be presumed that there are very many more lunatics than are in the asylums; but it may be questioned whether there are many dangerous or very troublesome lunatics, for if there were, the magistrates of districts would, I suppose, deem it requisite to send them to places of safety.

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MORTALITY

IN THE

JAILS OF THE 24 PERGUNNAHS, CALCUTTA.

by
F. P Strong

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MORTALITY

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From the JOURNAL OF THE STATISTICAL SOCIETY OF LONDON.
FEB., 1849.

ANALYSIS OF THE REPORT

OF

SURGEON F. P. STRONG, OF THE BENGAL ARMY,

TO

THE BENGAL GOVERNMENT FOR 1847,

OF THE MORTALITY IN THE JAILS OF THE 24 PERGUNNAHS, CALCUTTA.

By LIEUT.-COLONEL W. H. SYKES, V.P.R.S.

[Read before the Statistical Society of London, 20th November, 1848.]

DR. STRONG has been good enough to transmit to me recently his Official Report for 1847 to the Bengal Government of the Sickness and Mortality in the Jails of the 24 Pergunnahs. Dr. Strong has had medical charge of these jails for many years, and has distinguished himself by the benevolent perseverance with which he has experimented in various ways to improve the health of the prisoners in his charge, and diminish the high rate of mortality that appears generally to result from confinement in the jails in India. Ventilation, exercise, occupation, and diet, have engaged his attention, but particularly the latter; and to having effected an improvement in the diet, by an increase of animal food and condiments, Dr. Strong attributes a decidedly diminished annual mortality among the prisoners. Dr. Strong's report comprises the prisoners in the Allipore Jail, who are confined for life, and whose annual average number, from 1836 to 1847 inclusive, ranged from 1,066 to 1,507, and the average for the whole period was 1301; it comprises also the temporary prisoners in the Zillah jails, varying from 611 to 902, the average for the period being 769; and, finally, the Insane Hospital patients, for the same period, varying from 186 in 1816, to 202 in 1847, in 1824 the number being as low as 102. Dr. Strong supplies figured statements from official records, of the sickness and mortality in the several jails under the old and new diet systems, and in the Insane Hospital; but, as my object is rather to call the attention of the Society to a remarkable cholera return for thirty-one years than to discuss the general mortality in jails in India, it will suffice to mention that in all the jails under Dr. Strong, for the first sixteen years, from 1820 to 1836, the mortality was $8\frac{1}{4}$ per cent. per annum, and for the last eleven years, from 1836 to 1847, the mortality was reduced to 5·57 per cent. per annum, the mortality of

the native inhabitants of Calcutta being, in the last period, 4·64 per cent.; the greatest mortality in the jails, as in Calcutta, being in the coldest months.

To show the effect of improved rations, of two meals per diem instead of one, Dr. Strong adduces the prisoners confined for life in the Allipore Jail, who never leave the precincts of the jail, as contrasted with the prisoners in the other jails, who had only one meal per diem until latterly, when the mortality with them was also reduced to nearly the same amount as in the Allipore Jail. The annual deaths, inclusive of those from cholera, in the Allipore Jail, from 1836 to 1847, both years inclusive, varied from 2·99 per cent. to 9·80 per cent., the average being 5·60 per cent. In the other four suburban and Zillah jails the annual per centage mortality varied, as the diet was changed, from bad to indifferent and good. From 1836 to 1847 inclusive, Dr. Strong gives eight periods in which he shows that in the first period, with insufficient diet, the mortality was 7·95; in the second period of 26 months, with a good diet, the mortality was reduced to 4·3 per cent.; for two periods of 15 and 12 months, the former diet was restored, and the mortality rose respectively to 9·44 and 7·71 per cent., 2·69 per cent. of the larger amount, however, being attributable to cholera, in 1842. For the next four periods, the good diet of the rations daily was restored, and the mortality fell respectively to 5·65, 4·76, 3·16, and 3·91 per cent.

The average of deaths in the Lunatic Asylum for ten years, from 1833 to 1842, was 16·9 per cent., and for five years, from 1843 to 1847, the mortality was 17·3 per cent., which Dr. Strong shows from tables that he quotes to be infinitely less than in the asylums in Europe. At Sunavra, in Italy, the deaths are represented as 42·5 per cent.; at Paris, 35·6 per cent.; and at ten asylums, in 1837, in England, 21 per cent.

Table of Mortality of the Allipore Jail Prisoners for Life who never leave the Jail the great health they enjoyed over the Zillah Prisoners

Years.	January.		February.		March.		April.		May.		June.		July.	
	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.
1836.....	..	..	..	..	..	..	..	..	..	..	..	..	1,204	4
1837.....	1,295	6	1,171	1	1,173	4	1,200	3	1,158	5	1,146	7	1,165	6
1838.....	1,266	5	1,284	6	1,271	4	1,299	5	1,295	4	1,309	5	1,337	6
1839.....	1,349	3	1,349	5	1,338	6	1,368	10	1,356	2	1,445	7	1,452	2
1840.....	1,496	13	1,451	13	1,453	10	1,437	6	1,486	6	1,507	4	1,516	4
1841.....	1,505	6	1,525	11	1,532	6	1,397	6	1,351	..	1,374	3	1,368	2
1842.....	1,478	15	1,494	10	1,509	8	1,526	6	1,499	7	1,485	2	1,445	0
1843.....	1,267	11	1,299	11	1,288	12	1,383	10	1,388	3	1,420	4	1,340	7
1844.....	1,312	10	1,308	10	1,389	6	1,303	4	1,307	4	1,379	10	1,297	4
1845.....	1,191	8	1,189	7	1,176	2	1,170	1	1,219	5	1,193	3	1,178	4
1846.....	1,158	6	1,170	3	1,172	3	1,286	4	1,151	6	1,208	2	1,152	4
1847.....	1,131	7	1,102	5	1,105	3	1,015	2	1,091	1	1,118	4	1,017	4
Total	14,448	90	14,342	82	14,406	64	14,384	57	14,301	43	14,584	51	15,537	56
Per cent. per annum ..	..	4·47	..	6·86	..	5·33	..	4·75	..	3·65	..	4·19	..	4·32

Table of the 24 *Pergunnahs Temporary Prisoners in the Russah Jail and different reduced to nearly half, comparing* 6

Years.	January.		February.		March.		April.		May.		June.		July.	
	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.
1836.....	..	..	..	..	..	..	..	..	..	..	..	..	863	3
1837.....	726	4	757	2	780	5	747	1	824	3	838	8	747	2
1838.....	759	3	762	1	888	4	844	6	826	8	894	5	900	3
1839.....	866	6	893	7	792	2	721	3	753	6	642	9	673	3
1840.....	591	3	613	2	591	..	617	4	694	5	676	..	683	3
1841.....	699	2	697	3	652	3	792	2	697	3	786	1	796	1
1842.....	793	9	711	6	709	6	733	6	811	6	801	3	714	4
1843.....	699	10	788	3	811	3	790	4	860	2	919	4	842	5
1844.....	798	7	851	1	801	10	1,056	8	951	4	982	2	982	4
1845.....	821	4	906	4	834	8	852	1	877	3	894	1	911	2
1846.....	836	2	743	3	716	1	732	2	758	6	757	1	759	2
1847.....	727	1	730	4	753	1	743	2	740	1	710	2	721	2
Total	8,315	51	8,451	36	8,327	43	8,627	39	8,791	47	8,899	36	9,591	34
Per cent. per annum ..	..	7·36	..	5·11	..	6·20	..	5·43	..	6·41	..	4·85	..	4·25

compound, intended to show, as the Prison Discipline Committee in their Report observe, until the food of the latter class was improved.

August.		September.		October.		November.		December.							
No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	Grand Total of Prisoners.	Grand Total of Deaths.	Average Number of Prisoners.	Per cent per Annum, including Cholera Deaths.	Total of Cholera Deaths.	Ratio of Cholera Deaths to Strength per Annum.
1,304	6	1,134	3	1,118	8	1,113	7	1,115	7	7,024	35	1,170	2·99	2	0·17
1,157	8	1,230	2	1,232	3	1,228	2	1,266	8	14,421	55	1,201	4·57	2	0·16
1,342	5	1,316	10	1,354	5	1,392	7	1,376	9	15,841	71	1,320	5·37	8	0·60
1,457	5	1,458	2	1,476	8	1,477	11	1,481	17	17,006	78	1,417	5·50	0	0·00
1,600	7	1,556	7	1,512	3	1,520	6	1,525	2	18,089	81	1,507	5·37	10	0·66
1,417	6	1,372	4	1,417	1	1,423	7	1,428	9	17,109	61	1,425	4·98	8	0·56
1,452	6	1,449	7	1,360	16	1,311	24	1,349	14	17,357	124	1,446	8·57	6	0·41
1,435	9	1,400	14	1,401	19	1,333	18	1,330	15	16,284	133	1,357	9·80	6	0·44
1,302	5	1,178	6	1,184	3	1,174	6	1,173	5	15,306	73	1,275	5·72	4	0·31
1,238	1	1,229	3	1,213	5	1,212	5	1,107	6	14,315	50	1,192	4·19	1	0·08
1,090	3	1,125	2	1,143	3	1,165	8	1,141	4	13,970	48	1,164	4·12	5	0·42
1,072	1	1,057	4	1,044	2	1,044	3	1,005	7	12,801	43	1,066	4·03	1	0·09
15,875	62	15,534	64	15,454	76	15,362	104	15,296	103	179,523	852	1,301	..	53	..
..	4·68	..	4·94	..	5·90	..	8·10	..	8·08	..	5·60	..	5·60	..	0·34

Localities, intending to show the lessening of Mortality latterly from improved food years insufficient with 6 years good food.

August.		September.		October.		November.		December.							
No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	Grand Total of Prisoners.	Grand Total of Deaths.	Average Number of Prisoners.	Ratio of Death to Strength.	Total of Cholera Deaths.	Ratio of Cholera Deaths to Strength per Annum.
720	5	735	5	755	4	593	6	761	4	4,427	27	737	3·66	3	0·40
759	..	709	4	706	5	733	10	782	2	9,108	46	759	6·06	8	1·05
819	4	875	2	806	6	793	6	789	10	9,985	58	832	6·97	9	1·08
713	1	729	3	703	3	698	5	581	2	8,764	50	730	6·84	2	0·27
613	3	589	..	513	..	535	1	587	3	7,332	24	611	3·92	6	0·98
718	6	719	3	713	5	715	4	713	6	8,692	39	724	5·38	5	0·69
728	1	719	3	724	10	735	9	741	9	8,919	72	743	9·69	20	2·69
879	6	831	7	829	6	778	4	779	9	9,805	63	817	7 71	7	0·85
878	1	865	2	896	4	915	3	852	5	10,827	51	902	5·65	13	1·44
887	3	950	3	954	3	857	6	839	4	10,582	42	881	4·76	9	1·02
759	..	768	1	766	1	763	2	751	3	9,108	24	759	3·16	4	0·52
723	..	716	6	667	2	665	2	686	5	8,581	28	715	3·91	4	0·55
9,251	30	9,205	39	9,032	49	8,780	58	8,861	62	106,130	524	769	..	90	..
..	3·60	..	5·08	..	6·51	..	7·93	..	3·40	..	5·92	..	5·29	..	0·97

Dr. Strong gives a table showing the advantage of exercise and amusement to lunatic patients, and says:—"The employment and amusement of the convalescent insanes are various. When the floors became so damp from age that they could not lie upon them, they constructed raised platforms of bamboo for beds themselves. Singing, dancing, cards (not gambling), the drum, fife, &c., are encouraged; some women spin, some make cloth, pick coffee, rice, &c., and the insane men who exercise in the open air, have, for many years been constantly engaged in sowing, transplanting, and rearing coffee, a quantity of which was packed up and sent, by the ship "Warrior," to the Hon. Court of Directors, in 1832, and some to the Royal Asiatic Society, and was highly approved by the London brokers." Every description of gardening has been adopted by those willing to work, and this activity has been, Dr. Strong thinks, the chief means of curing and discharging many. When the American cotton seed was introduced, the insanes were amongst the first to raise the plants; large quantities of Otaheite sugar-cane have been produced by their labour, and cuttings of the cane, cotton, and coffee plants have been sent to various parts of India from the garden of the Insane Hospital. The cactus plant has been extensively reared, and the cochineal insect produced. The Spanish arnato, the Sapan Wood of Commerce, mulberry plants, and the cassada which produces tapioca, have all been cultivated; and latterly the aloe, from the fibre of which rope of great strength has been made. I mention these facts to show that the celebrated Hanwell Asylum system had a prototype in India.

The second return of Asiatic cholera to our shores, after an absence of sixteen years, gives considerable interest to the most complete table of cholera statistics for 31 years, from 1817, the date of its first *record* in Calcutta, to 1847 inclusive, that has hitherto been compiled. I say the date of the first *record*, because there can be little doubt, although its ravages were not systematically recorded before, that it was nothing less than the cholera that ravaged the Mahratta army under Hurree Punt, on the Toongboodra River, in 1786*; and it is equally a matter of certainty, that Sir Edward Hughes's squadron suffered from the malady when off Ceylon, in 1782; and Arungzebe's army also, at the siege of Bijepoor, in 1657, suffered from it. Indeed, Dr. Allan Webb, Professor of Descriptive and Surgical Anatomy, in the Calcutta Medical College, in a second edition of his "Pathologia Indica," published in the present year, quotes passages from Hippocrates, Whang-shoo-ho, his contemporary in China, and Susruta, the greatest Hindoo medical authority, to show that the disease called Asiatic cholera was known in the earliest times in Greece, China, and India. It matters not much whether it be of ancient or modern date, beyond the assurance involved in the fact of its antiquity, that neither its supposed frightful ravages, nor the other pestilences to which man is subject, have prevented the gradual spread of his race all over the earth; genera of gigantic and wonderful animals have been created and disappeared, but war, and famine, and plague oppose their barriers in vain to the steady increase of the human race.

Dr. Strong's remarkable table contains, not only instructive facts

* Hurree Punt, in his own hand, writes, "The loss sustained by the Army in consequence of the Cholera Morbus is very great. Medicines are liberally supplied; some do recover, but by far the greater part die."—Grant Duff's History of the Mahrattas, vol. iii., p. 17.

for the professional man, but consolatory assurances that ought to alleviate the usual panic that pervades all classes of society into which the cholera unhappily intrudes. I have shown, in a paper published in the Journal of the Statistical Society, upon the Vital Statistics of the East India Company's Armies in India, for 20 years, both European and Native, that the deaths to the strength from cholera amongst Europeans in Bengal, was 1·15 per cent. of the strength, and for one year (1843) only in that period, it attained a maximum rate of 2·13 per cent.; amongst the native troops in Bengal, the average for 20 years was 0·22 per cent., once only, in 1843, having attained nearly a third per cent. Amongst the Europeans in Madras the average mortality was 0·427 per cent. to the strength, and a maximum rate of 1·379 per cent. occurred in 1825,—in 1843 the rate was only 0·219; amongst the native troops the average mortality was 0·583 per cent., but a maximum rate occurred, as in Bengal, in 1843, of 1·385 per cent. Amongst the European troops in Bombay the average mortality to strength for 20 years, was 0·565 per cent., a maximum rate in 1·912 per cent. having occurred in 1842, preceding the fatal year of Bengal and Madras; the average mortality of the native troops of Bombay was 0·281 per cent., a maximum rate of 0·598 occurring in 1842. The average mortality from cholera of all the European troops of the East India Company in all India for 20 years was 0·724 per cent. of the strength, and of the native troops 0·342 per cent.

It is satisfactory to find these results in close conformity to those of Dr. Strong's table, which are founded upon facts obtained under such favourable circumstances for their accurate accumulation; having the parties within the four walls of prisons, controlling their actions and their diet, and having daily records of their condition. I am not aware that for so lengthened a period as thirty-one consecutive years, any other cholera return exists, similar to that of Dr. Strong, who had such unusual facilities for investigating the frightful disease in all its various phases.

The return embraces the number of prisoners, the number of cholera sick, and the number of cholera deaths for every month of every year from 1817 to 1847, both inclusive. The first striking feature of the table is that there is not any one *year* of the whole series in which there was not cholera in the jails; and what is equally remarkable, with exceptions to be mentioned, there was not any one *month* of any year in which the cholera was not present among the prisoners. The exceptions are, the month of January in the years 1840 and 1845; April, 1840 and 1845; June, 1831 and 1845; September, 1832 and 1841; October, 1841 and 1846; November, 1843 and 1847; and December, 1839 and 1841. The months of February, March, May, July, and August, were never free from cholera in any one year. The disease, therefore, took its place with the ordinary diseases to which man is subject in India at all times,—dysentery, fevers, liver, spleen, and all the ills that flesh is heir to, and yet the average mortality from cholera to the strength, for 31 years, was exactly one per cent.; the average mortality from all causes, for 27 years, being 7·11 per cent. in the jails of the 24 Pergunnahs, while the mortality in Calcutta, for the same period, was 4·64 per cent. Here we have a most important and consolatory fact; the disease, permanently located within the walls of prisons, under the most favourable circumstances for its development and spread, from the constrained juxtaposition of parties,

produced only 6,531 cases in 31 years to an annual average strength of 1,863, or about 11¼ per cent.; so that, whether the cholera be contagious or be not contagious, only one in nine persons was susceptible of taking the disease, when constantly exposed to its influence, and only one-eleventh of those who took the disease died; the average loss of those treated for 31 years, being 8·86 per cent.

The next great feature of the table, is the effect of temperature upon the amount of cases, and upon the intensity of the mortality; and it is shown, that the mortality nearly follows the course of temperature, the greatest number of deaths being in the coldest and hottest months, as is the case in Calcutta, from diseases of all classes. But, although contrasted temperatures appear to occasion increased mortality in cholera cases, the relation ceases at this point, for the cases are fewest in the cold months, and most numerous in the hot months. For instance, in the months of November, December, January, and February, the proportion of cases to strength is respectively 0·92, 0·82, 0·68, and 0·89 per cent.; that is to say, under 1 per cent. per month; while, in the hot months of March, April, May, and the comparatively hot months of August and September, the number of cases were respectively 1·10, 1·14, 1·09, 1·01, and 1·06 per cent.; that is to say, somewhat above 1 per cent. December is the only cold month in which the deaths are under 1 per cent. (0·88) of the strength; which is the more curious, as the preceding month of November is characterised by an average mortality, for 31 years, of 1·23 per cent. The mortality in the cold months of January and February was respectively 1·10 and 1·26 per cent., and for March, April, and May, 1·50, 1·27, and 1·25 per cent. The setting in of the monsoon in June, reducing the temperature to a medium state between the cold and hot months, and saturating the air with moisture until the month of October, appears to have a decided effect, both upon the number of cholera cases and the intensity of its mortality; the per centage mortality is reduced nearly one-half in these months, amounting respectively to 0·59, 0·51, 0·68, 0 72, and 0·97 per cent. An equable temperature and elevated hygrometric state of the air, would appear, therefore, to be unfavourable to the spread of cholera, and to influence decidedly the ratio of the mortality.

Another great feature of the table exhibits some very anomalous characters; and that is, the apparently capricious changes in the amount of the annual mortality amongst the cases treated, but whether resulting from atmospheric causes, the idiosyncracy of individuals, or changes in the mode of treatment, Dr. Strong's report does not afford any evidence. For instance, the first year of the record of the cholera (1817), the deaths were 5·26 per cent. of the cases treated, the number of cases being 513. The next year, 1818, the deaths were 10·42 per cent. in 307 cases, the next two years, the mortality rose to above 12 per cent. in 285 and 391 cases respectively. The rate of annual loss then fell gradually until 1824, when it was only 2·87 per cent. in 414 cases. The mortality then gradually rose annually, until 1834, in which year it was 17·47 per cent. in 103 cases. The next year it fell to 4·29 per cent. in 163 cases, and it continued very moderate until 1840, when it suddenly jumped from 6·45 per cent, in 31 cases in 1839, to 19·69 per cent. in 66 cases in 1840. The next year the maximum mortality of the whole period occurred, namely, 54·16 per cent. in 24 cases. In 1842

the mortality was 44·82 per cent. in 58 cases; the next year it fell to 28·88 per cent. in 45 cases. Nor has it since fallen below 20 per cent. in 1846 in 45 cases, and the last year of the return, 1847, gives a mortality of 22·72 per cent. in 22 cases. From the year 1838, the number of cholera cases fell suddenly from 185 cases to only 31 cases in 1839, and since that year until 1847, the maximum number of cholera cases in any one year, was only 66; but the ratio of the mortality had fearfully increased upon the smaller numbers. There are multitudinous instances where, in very many cases treated, there is not a single death; for instance, in the month of April, 1822, there were 94 cases, and not one death; whereas, in January of the same year, there were 11 deaths in 31 cases. In March, 1822, there were 75 cases and 1 death, while, in March, 1828, there were 14 deaths in 32 cases. In December, 1833, there were 5 deaths out of 10 cases, while, in the same month in 1835, there was not a single death in 12 cases; and in December, 1821, there was not a single death in 18 cases. These anomalies could be infinitely multiplied, and the table offers a useful study to the speculative physiologist. Notwithstanding these monthly anomalies, the annual totals of cholera cases indicate that in years when the cases were most numerous the ratio of deaths was least; and the greatest per centage loss (not the absolute loss) was greatest when the cases were comparatively few in the year. Dr. Strong does not offer an opinion whether these anomalies were to be accounted for by atmospheric causes, which it would have required a careful record of meteorological phenomena to have assisted in determining; nor does he say whether the varying mortality was connected with varying modes of treatment. In the absence of such essential information it would be hazardous to comment upon the facts as they appear; it is plain, however, that whatever may be the causes of the varying mortality, that, for no one year, nor for any one month of the whole period of 31 years, has the intensity of the mortality been comparable to that which is occurring in Edinburgh, in London, and the provinces, at the present moment.

Dr. Strong's table, in the absence of some necessary data, is, nevertheless, a very valuable document; to the actuary it is of great importance, for the averages running over so lengthened a period as 31 years, necessarily establish a normal state, that enables him to fix with precision the risks that he runs in his insurances; and if the table were generally known it should have the effect of abating that unreasonable panic which the presence of cholera in any locality in Europe appears instantly to produce; for, under the most favourable circumstances for the development and spread of the malady, within the walls of prisons, where it has lasted perennially, where it was impossible for individuals to escape from its influence, and where depression of mind from confinement, and the absence of proper exercise, predisposed to disease, and where the usual annual mortality in the jails is nearly, if not quite double that of the population of Calcutta, we yet see that about one in ten persons only was susceptible of taking the disease, that the average of only 8·86 per cent. of those attacked died, and that only 1 in 100 individuals exposed to it lost his life. Whether, therefore, contagious or not contagious, we have proofs that we may acquit ourselves of our duties to our neighbours with the guarantee that we expose ourselves comparatively to little risk, commensurate with the good that an active benevolence may produce.

Abstract Statement of Deaths among the Prisoners of the Allipore and Russah Jails, and Month, the Grand Total, and Average Rate per Cent. 1,809½ *being the Average Number shewing also the Months of greater Mortality to be the cold weather Months, as in*

Years.	January.		February.		March.		April.		May.		June		July.	
	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.
1820	1,832	30	1,903	13	1,996	20	1,921	16	1,940	16	1,831	9	1,807	16
1821	1,816	17	1,809	10	1,832	11	1,927	12	1,974	11	1,995	7	1,894	10
1822	1,795	18	1,805	7	1,879	13	1,799	11	1,848	4	1,851	3	1,889	9
1823	1,629	11	1,644	10	1,595	10	1,593	7	1,635	6	1,571	10	1,511	10
1824	1,481	6	1,529	11	1,426	9	1,375	6	1,403	8	1,328	11	1,228	7
1825	1,599	6	1,498	10	1,434	17	1,463	18	1,249	17	1,187	8	1,139	9
1826	1,117	7	1,137	4	1,138	2	1,161	3	1,129	14	1,142	6	1,148	6
1827	1,179	6	1,212	4	1,116	7	1,153	7	1,226	15	1,232	1	1,298	2
1828	1,227	11	1,153	7	1,260	23	1,299	11	1,338	7	1,304	5	1,287	8
1829	1,327	15	1,289	4	1,376	6	1,330	12	1,395	6	1,386	9	1,434	8
1830	1,486	3	1,552	6	1,457	8	1,497	4	1,536	6	1,536	10	1,564	6
1831	1,474	19	1,575	10	1,586	11	1,651	9	1,632	16	1,619	11	1,635	7
1832	2,219	23	2,013	7	1,924	22	1,909	11	1,944	10	1,984	6	2,227	4
1833	2,067	12	2,118	13	2,372	28	2,170	11	1,918	7	2,117	7	1,982	10
1834	2,322	18	2,807	9	2,317	13	2,154	14	2,147	9	2,111	10	1,988	14
1835	2,109	23	2,188	7	2,211	11	2,037	13	2,035	14	2,225	9	2,118	6
1836	1,806	8	1,776	5	1,720	3	1,894	9	1,829	6	1,796	7	2,103	7
1837	2,021	10	1,928	3	1,953	9	1,947	4	1,982	8	1,984	15	1,912	8
1838	2,025	8	2,046	7	2,159	8	2,143	11	2,121	12	2,203	10	2,237	9
1839	2,215	10	2,242	12	2,130	8	2,089	13	2,109	8	2,087	16	2,125	5
1840	2,087	16	2,064	15	2,044	10	2,054	10	2,180	11	2,183	4	2,239	7
1841	2,204	8	2,222	14	2,184	9	2,189	8	2,048	3	2,160	4	2,164	3
1842	2,271	24	2,205	16	2,218	14	2,259	12	2,310	13	2,286	5	2,159	13
1843	1,966	21	2,087	14	2,099	15	2,173	14	2,188	5	2,339	8	2,182	12
1844	2,110	17	2,159	11	2,190	16	2,359	12	2,264	8	2,361	12	2,279	8
1845	1,953	12	2,029	11	1,943	10	1,963	2	2,081	8	2,044	4	2,013	6
1846	1,928	8	1,864	6	1,839	4	1,963	6	1,857	12	1,908	3	1,853	6
1847	1,799	8	1,775	9	1,797	4	1,707	4	1,846	2	1,795	6	1,703	6
Total		375	51,629	255	51,195	321	51,179	270	51,1164	262	51,1565	213	51,1118	222
Per cent., per annum	51,064	8·81	....	5·92	....	7·52	....	6·33	....	6·14	....	4·96	....	5·21
Rate of Mortality among the Native Inhabitants of Calcutta for 10 years	....	4·84	....	4·22	....	4·89	....	5·65	....	4·63	....	3·22	....	3·68

different Guards in the 24 Pergunnahs, during the following years, shewing the Number per of Prisoners throughout the Period, more than two-thirds of those being Prisoners for Life; Calcutta.

August.		September.		October.		November.		December.		Grand Total of Prisoners.	Grand Total of Deaths.	Average Number of Prisoners.	Per cent. per annum.	
No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.	No. of Prisoners.	No. of Deaths.					
1,821	9	1,700	11	1,705	13	1,681	10	1,750	16	21,887	179	1,823	9·81	Average Mortality, 16 years, 8·74.
1,778	16	1,772	20	1,762	9	1,759	24	1,762	20	22,080	167	1,840	9·07	
1,681	11	1,612	11	1,597	20	1,571	9	1,544	14	20,871	130	1,739	7·47	
1,416	12	1,386	10	1,404	14	1,394	9	1,385	9	18,163	118	1,513	7·79	
1,293	7	1,290	11	1,295	3	1,491	4	1,559	4	16,698	87	1,391	6·25	
1,151	13	1,051	15	1,173	8	1,122	12	1,088	7	15,154	140	1,262	11·09	
1,138	7	1,157	3	1,177	6	1,113	3	1,140	6	13,697	67	1,141	5·87	
1,304	5	1,210	7	1,271	8	1,242	6	1,198	5	14,641	73	1,220	5·98	
1,298	3	1,327	3	1,287	6	1,365	6	1,309	10	15,454	100	1,287	7·77	
1,466	5	1,386	6	1,459	3	1,487	4	1,886	12	17,221	87	1,435	6·06	
1,573	10	1,566	8	1,553	23	1,521	29	1,889	21	18,730	134	1,560	8·58	
1,615	11	1,545	12	1,531	29	1,945	29	2,081	23	19,889	187	1,657	11·28	
2,047	11	1,706	12	1,964	19	2,153	24	1,909	27	23,999	176	1,999	8·80	
1,991	21	2,037	23	2,217	37	2,087	33	2,209	29	25,285	231	2,107	10·96	
1,872	16	1,879	17	1,896	28	1,786	19	1,913	22	25,191	189	2,099	9·00	
2,013	8	2,002	9	1,843	7	1,836	7	1,883	10	24,500	124	2,041	6·07	
2,024	11	1,869	8	1,873	12	1,706	13	1,876	11	22,272	100	1,856	5·38	
1,916	8	1,939	6	1,938	8	1,961	12	2,048	10	23,529	101	1,960	5·15	Average Mortality for 11 years 5·57 per cent. per annum.
2,191	9	2,221	12	2,160	11	2,155	13	2,165	19	25,826	129	2,152	5·99	
2,170	6	2,217	5	2,179	11	2,175	16	2,062	19	25,800	129	2,150	6·00	
2,243	10	2,145	7	2,025	3	2,055	7	2,112	5	25,431	105	2,119	4·95	
2,130	12	2,091	7	2,130	6	2,138	11	2,141	15	25,801	100	1,250	8·00	
2,180	7	2,168	10	2,084	26	2,046	33	2,090	23	26,276	196	2,189	8·95	
2,314	15	2,231	21	2,230	25	2,111	22	2,105	24	26,025	196	2,168	9·04	
2,180	6	2,043	8	2,080	7	2,089	9	2,025	10	26,139	124	2,178	5·69	
2,046	4	2,107	6	2,094	8	1,990	11	1,879	10	24,142	92	2,011	4·57	
1,790	3	1,825	3	1,843	4	1,865	10	1,827	7	22,362	72	1,863	3·86	
1,760	1	1,742	10	1,684	4	1,676	5	1,653	12	20,937	71	1,744	4.07	
50,401	257	49,224	281	49·454	358	49,519	390	50,488	400	608,000	3604	1,809½		
....	6·11	....	6·85	....	8·68	....	9·45	....	9·50	....	7·11	....	7·11	
....	4·22	....	4·47	....	4·91	...	6·10	....	5·72	....	....	....	4·64	

CHOLERA STATISTICS.—CHOLERA TABLE *showing the Number of Prisoners in the 24 Pergunnahs, both Life and Temporary, the Number of them Attacked by the Disease, the Proportion of Deaths to those Attacked, and to the entire Prisoners. This Table of 31 Years also shows the Months in each Year the Disease is most prevalent, and most fatal; (generally the cold weather months,) as is exhibited in the Mortality Tables of the Calcutta Population, and in the Tables of both the Allipore and Zillah Prisoners when separated.*

YEARS.	January.			February.			March.			April.			May.			June.			July.		
	No. of Prisoners.	No. of Cholera Sick.	No. of Cholera Deaths.	No. of Prisoners.	No. of Cholera Sick.	No. of Cholera Deaths.	No. of Prisoners.	No. of Cholera Sick.	No. of Cholera Deaths.	No. of Prisoners.	No. of Cholera Sick.	No. of Cholera Deaths.	No. of Prisoners.	No. of Cholera Sick.	No. of Cholera Deaths.	No. of Prisoners.	No. of Cholera Sick.	No. of Cholera Deaths.	No. of Prisoners.	No. of Cholera Sick.	No. of Cholera Deaths.
1817	2,780	30	2	2,852	51	3	2,745	53	0	2,770	54	3	2,700	31	1	2,721	12	0	2,668	29	2
1818.....	2,475	22	2	2,415	50	10	2,399	56	5	2,467	33	0	2,423	21	0	2,401	8	1	2,407	17	2
1819.....	2,175	8	1	2,139	21	1	1,961	19	2	1,936	7	6	1,995	20	1	1,967	12	1	2,068	10	3
1820.....	1,832	37	8	1,903	16	1	1,996	23	6	1,921	50	7	1,940	55	9	1,831	47	3	1,807	43	3
1821.....	1,816	21	3	1,809	25	4	1,832	22	2	1,927	19	4	1,974	28	2	1,995	29	3	1,894	31	1
1822.....	1,795	31	11	1,805	55	3	1,879	75	1	1,799	94	0	1,848	65	1	1,851	45	1	1,889	18	1
1823.....	1,629	24	3	1,644	16	1	1,595	23	0	1,593	14	1	1,635	19	0	1,571	40	2	1,511	29	3
1824..	1,481	17	0	1,529	26	2	1,426	25	5	1,375	34	1	1,403	31	1	1,328	32	2	1,228	24	0
1825.....	1,599	31	0	1,498	34	3	1,434	37	1	1,463	26	0	1,249	26	0	1,187	20	0	1,139	40	1
1826.....	1,117	3	1	1,137	41	3	1,138	33	0	1,161	39	1	1,129	59	9	1,142	57	1	1,148	27	0
1827.....	1,179	21	0	1,212	34	1	1,116	43	1	1,153	38	2	1,226	51	12	1,232	86	1	1,298	24	1
1828.....	1,227	28	2	1,153	30	1	1,260	32	14	1,299	59	7	1,338	81	3	1,304	32	3	1,287	64	0
1829.....	1,327	2	0	1,289	4	0	1,376	10	1	1,330	21	2	1,395	13	0	1,386	3	0	1,434	8	1
1830.....	1,486	12	0	1,552	11	0	1,457	9	3	1,497	6	2	1,536	7	1	1,536	8	2	1,564	14	0
1831.....	1,474	25	4	1,575	14	0	1,586	5	0	1,651	8	1	1,632	10	0	1,619	0	0	1,635	7	0
1832.....	2,219	6	1	2,013	4	1	1,924	2	0	1,909	3	0	1,944	2	0	1,984	1	0	2,227	3	0
1833.....	2,067	11	1	2,118	11	4	2,372	30	11	2,170	37	1	1,918	19	1	2,117	21	0	1,992	16	1
1834.....	2,322	7	0	2,807	3	0	2,317	6	2	2,154	7	2	2,147	13	1	2,111	9	1	1,988	7	3
1835.....	2,109	7	0	2,188	5	0	2,211	13	2	2,037	12	1	2,035	13	3	2,225	16	1	2,118	15	0
1836.....	1,806	8	0	1,776	8	1	1,720	7	0	1,894	12	0	1,829	11	0	1,796	9	1	2,103	15	1
1837	2,021	15	0	1,928	18	1	1,953	25	3	1,947	31	0	1,982	13	0	1,984	13	2	1,912	17	0
1838.....	2,025	11	0	2,046	9	1	2,159	33	2	2,143	22	4	2,121	16	4	2,208	18	1	2,237	16	1
1839.....	2,215	2	0	2,242	6	0	2,130	5	0	2,089	4	2	2,109	1	0	2,087	1	0	2,125	2	0
1840.....	2,087	0	0	2,064	6	4	2,044	20	0	2,054	8	4	2,180	7	3	2,183	7	0	2,239	3	0
1841.....	2,204	3	3	2,222	9	6	2,184	6	2	2,189	0	0	2,048	2	1	2,160	1	0	2,164	1	0
1842.....	2,271	4	4	2,205	5	3	2,218	4	0	2,259	11	4	2,310	5	3	2,286	1	0	2,159	3	0
1843.....	1,966	10	5	2,087	5	2	2,099	4	1	2,173	6	1	2,188	3	1	2,339	3	0	2,182	2	0
1844.....	2,110	3	1	2,159	4	1	2,190	9	5	2,359	11	4	2,264	4	0	2,361	7	2	2,279	5	1
1845..... ...	1,953	0	0	2,029	5	3	1,943	8	2	1,963	0	0	2,081	3	1	2,044	0	0	2,013	3	0
1846.....	1,928	2	2	1,864	1	1	1,839	3	1	1,963	2	1	1,857	8	3	1,908	8	1	1,853	9	0
1847.....	1,709	1	0	1,775	3	1	1,797	2	1	1,707	2	1	1,846	1	0	1,795	4	0	1,703	2	0
Total.....	58,494	402	54	59,005	530	62	58,300	642	73	58,352	670	62	58,282	638	61	58,654	495	29	58,261	504	25
Per cent. per annum	..	0·68	13·43	..	0·89	11·69	..	1·10	11·37	..	1·14	9·25	..	1·09	9·56	..	0·84	5·85	..	0·86	4·96
Deaths to strength....	1·10	..	..	1·26	..	..	1·50	..	..	1·27	..	..	1·25	..	.	0·59	..	..	0·51	..	..

CHOLERA STATISTICS.—*Continued.*

YEARS.	August.			September.			October.			November.			December.			Grand Total of Prisoners.	Grand Total of Cholera Sick.	Grand Total of Cholera Deaths.	Average Number of Prisoners.	Ratio of Sick to Strength.	Ratio of Deaths to Strength.	Ratio of Death to Treated.
	No. of Prisoners.	No. of Cholera Sick.	No. of Cholera Deaths.	No. of Prisoners.	No. of Cholera Sick.	No. of Cholera Deaths.	No. of Prisoners.	No. of Cholera Sick.	No. of Cholera Deaths.	No. of Prisoners.	No. of Cholera Sick.	No. of Cholera Deaths.	No. of Prisoners.	No. of Cholera Sick.	No. of Cholera Deaths.							
1817	2,535	56	5	2,621	82	4	2,707	26	1	2,612	52	5	2,510	37	1	32,221	513	27	2,685	1·56	1·00	5·26
1818	2,796	15	1	2,223	13	1	2,317	11	1	2,324	36	4	2,258	25	5	28,905	307	32	2,408	1·06	1·32	10·42
1819	2,029	17	4	2,014	43	0	1,912	44	4	1,888	41	8	1,843	43	4	23,927	285	35	1,993	1·19	1·75	12·27
1820	1,821	35	4	1,700	24	3	1,705	22	3	1,681	21	1	1,750	18	2	21,887	391	50	1,823	1·78	2·74	12·78
1821	1,778	28	2	1,772	27	2	1,762	24	2	1,759	19	2	1,762	18	0	22,080	291	27	1,840	1·32	1·46	9·27
1822	1,681	40	3	1,612	37	1	1,597	7	2	1,571	8	1	1,544	23	4	20,871	498	29	1,739	2·38	1·66	5·82
1823	1,416	25	0	1,386	42	3	1,404	36	3	1,394	27	2	1,385	23	2	18,163	318	20	1,513	1·75	1·32	6·28
1824	1,293	58	0	1,290	36	0	1,295	30	0	1,491	46	1	1,559	55	0	16,698	414	12	1,391	2·47	0·86	2·89
1825	1,151	67	5	1,051	37	3	1,173	45	1	1,122	44	4	1,088	25	1	15,154	482	19	1,262	3·18	1·50	3·94
1826	1,138	21	0	1,157	24	1	1,177	31	1	1,113	27	0	1,140	29	0	13 697	391	17	1,141	2·85	1·48	4·34
1827	1,304	47	2	1,210	36	1	1,271	34	2	1,242	40	1	1,198	40	0	14,641	444	24	1,220	3·03	1·96	5·40
1828	1,298	31	0	1,327	17	0	1,287	13	0	1,365	8	2	1,309	3	0	15,454	398	32	1,287	2·57	2·48	8·04
1829	1,466	6	0	1,386	9	0	1,459	7	1	1,487	10	1	1,886	5	2	17,221	98	8	1,435	0·56	0·55	8·16
1830	1,573	13	3	1,566	18	2	1,553	16	1	1,521	43	10	1,889	29	1	18,730	186	25	1,560	0 99	1·60	13·44
1831	1,615	4	0	1,545	10	1	1,531	25	6	1,949	15	2	2,081	9	1	19,893	132	15	1,657	0·66	0·90	11·36
1832	2,047	2	0	1,706	0	0	1,964	7	0	2,153	10	2	1,909	16	4	23,999	56	8	1,999	0·23	0·40	14·28
1833	1,991	12	1	2,037	13	4	2,217	19	4	2,087	11	3	2,209	10	5	25,285	210	36	2,107	0·83	1·70	17·14
1834	1,872	9	0	1,879	11	4	1,896	10	2	1,785	12	1	1,913	9	2	25,191	103	18	2,099	0·40	0·85	17·47
1835	2,013	22	0	2,062	22	0	1,843	14	0	1,836	12	0	1,883	12	0	24,500	163	7	2,041	0·66	0·34	4·29
1836	2,024	15	2	1,869	1	0	1,873	5	0	1,706	7	1	1,876	9	1	22,272	107	7	1,856	0·48	0·37	6·54
1837	1,916	17	1	1,939	13	0	1,938	8	0	1,961	9	3	2,048	5	0	23,529	184	10	1,960	0·78	0·51	5·43
1838	2,191	22	0	2,221	13	2	2,160	8	1	2,155	10	0	2,165	12	1	25,826	185	17	2,152	0·71	0·78	9·18
1839	2,170	2	0	2,217	3	0	2,179	2	0	2,175	3	0	2,062	0	0	25,800	31	2	2,150	0·12	0·09	6·45
1840	2,243	2	0	2,145	3	0	2,025	3	0	2,055	3	1	2,112	4	1	25,431	66	13	2,119	0·25	0·61	19·69
1841	2 130	1	0	2,091	0	0	2,130	0	0	2,138	1	1	2,141	0	0	25,801	24	13	2,150	0·09	0·60	54·16
1842	2,180	2	0	2,168	2	0	2,084	12	8	2,046	4	2	2,090	5	2	26,276	58	26	2,189	0·22	1·18	44·82
1843	2,314	2	0	2,231	3	1	2,230	6	2	2,111	0	0	2,105	1	0	26,025	45	13	2,168	0·17	0·59	28·88
1844	2,180	4	0	2,043	3	1	2,080	3	1	2,089	1	0	2,025	2	1	26,139	56	17	2,178	0·21	0·78	30·34
1845	2,046	3	0	2,107	1	0	2,094	2	0	1 990	2	0	1,879	1	0	24,142	28	6	2,011	0·11	0·29	21·43
1846	1,790	8	0	1,825	1	0	1,843	0	0	1,865	2	0	1,827	1	0	22,362	45	9	1,863	0·20	0·48	20·00
1847	1,760	2	0	1,742	1	0	1,684	1	0	1,676	0	0	1,653	3	2	20,937	22	5	1,744	0·10	0·28	22·72
Total	57,761	588	33	56,082	595	34	56,390	471	46	56,347	524	58	57,099	472	42	693,057	6,531	579	1,863	11·3*	..	..
Per cent. per annum	..	1·01	5·61	..	1·06	5·71	..	0·83	9·76	..	0·92	11·06	..	0·82	8·89	..	..	..	..	..	1·00	8·86
Deaths to strength	0·68	..	..	0·72	..	..	0·97	..	..	1·23	..	..	0·88	..	..	..	..	..	..	..	1·00	..

* 11·3 is not the ratio constantly sick, but the ratio sick per annum.

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THE

STATISTICS OF CIVIL JUSTICE IN BENGAL,

IN WHICH THE GOVERNMENT IS A PARTY.

By COLONEL SYKES, *Vice-President of the Royal Society.*

[Read before the Statistical Section of the British Association at Swansea, 11th August, 1848.]

THE Englishman at home, whose rights are fenced and guarded by so many barriers against the inroad of arbitrary power,—irremoveable judges,—democratic institutions,—and popular opinion, will doubtingly ask what chance a poor native farmer, or penniless suitor would have of success in a contest with the Government of India? A Government that is based upon its military power, with all its officers for the administration of civil justice, from those of the highest Court of Appeal down to the District Moonsiffs, removeable at pleasure, and without juries, as a counterpoise to its influence To answer such a question, and a very important question it is, is the object of the present paper, and the statistical facts must testify for themselves whether the question be satisfactorily answered or otherwise.

The Government allows itself to be sued in its own courts—courts established by itself, and capable of being abolished at its own pleasure. It allows appeals against itself from court to court, and finally to the Privy Council in England; and itself, in a similar manner, appeals against the decisions of its own judges. It provides even, that suitors, *in formâ pauperis*, may litigate their rights against itself and others; and its own Superintendent and Remembrancer of Legal Affairs for Bengal, in his Annual Report to Government for 1845-6, not only recommends the remission of sums debited against paupers, but thinks that Government ought to forego even the stamp duty on all pauper suits, excepting those:—

1st. In which the pauper is successful.

2nd. In which Government is a party.

3rd. In which the judge certifies that the suit is, in his opinion, fraudulent or vexatious. He would, in fact, levy stamp duty from paupers solely as a punishment, and would not look upon it as a source of revenue.

His reasons are these. Previous to the admission of a pauper suit the judge is required by law to ascertain not only that the plaintiff is really a pauper, but that he has apparently good grounds for the

institution of his suit. This is a duty which the judges for their own sakes are not likely to perform negligently. It may, therefore, safely be assumed that, in the great majority of suits, the pauper who is unsuccessful, is unfortunate, not culpable. In case he has made a mistake, he is sufficiently punished by having to pay the costs of the opposite party. In such suits the exaction of a stamp tax by Government appears to the superintendent to be contrary to the spirit of the law—and Government cannot, he thinks, but suffer in the affections of their subjects when they see numbers of poor people every year reduced to destitution—their houses unroofed, and their furniture sold for no other offence than that of having an ignorant vakeel or witnesses accessible to corruption.

Of the extent of these suits an idea may be formed by the facts that, on the 1st May, 1846, the unrealized balances upon the total value of stamped paper due to Government in pauper suits, was 344,626 rupees on 1,960 suits, and on the 1st May, 1847, the amount was 304,564 rupees, independently of the outstanding balances in Patna and Behar, from which places returns had not been received.

The very great extent of litigation to which the Government is subjected rendered the appointment of an officer specifically to superintend the Government legal matters in Bengal absolutely necessary. Accordingly, there is an officer with the designation of Superintendent and Remembrancer of Legal Affairs, who makes an annual report to Government of all civil suits in which its interests are concerned. From the annual reports for the years 1845-6 and 1846-7, the whole of the following facts are selected. The remembrancer not only watches over the Government interests, but is the Government adviser; and upon his recommendation suits are either appealed, or abandoned, or allowed to take their course and consequences. In his office, also, elaborate registries are prepared by the superintendent's head assistant, of all cases pending, instituted, and decided during the year. Besides the usual particulars relative to dates, parties, value of suit, &c., these registries give the subject of the plaint, defence, and decision in all cases.

When the superintendent took charge of his office, some of the commissioners of revenue were in the habit of forwarding for revision only those cases which they deemed of importance, and appeals were constantly instituted by the local officers without reference to him. The Board of Revenue have now, however, on his representation, directed that no suit shall be instituted or defended, and no appeal preferred, without the concurrence of the remembrancer. If the commissioner and remembrancer coincide in opinion, the plaint or plea is to be filed without further delay. In the event of any difference of opinion, a reference is to be made by the remembrancer to the Board.

It further appears necessary to vest him with authority to act on his own responsibility, in cases where the limited period allowed for appeal does not admit of this reference, a report being, in all such instances, forwarded simultaneously to the Board.

But the practice of his office does not appear to be yet q[illegible] settled, for the Board of Customs, Salt, and Opium, although it has issued instructions to its subordinates to forward the plaints and pleas

which they propose filing, to the remembrancer for revision; yet appeals are still instituted in some of the departments under the Board without any such formality. The remembrancer considers it absolutely necessary for the protection of the Government interests, that no local officer of any department should be allowed to originate or to defend suits, whether original or appeal, without previous consultation with the remembrancer, as officers in immediate charge of departments take, not unfrequently, a personal interest in suits against their subordinates or themselves, which induces them to defend cases which are untenable, and to press claims which had better be abandoned.

There is also a diversity in the plans adopted by the subordinate officers, both in the revenue and other departments, of reporting the cases which they transmit. The best method, the remembrancer says, is that pursued by the great majority of collectors. An abstract in English of the plaint filed against Government, and of the proposed reply is given in parallel columns, and the collector, in the letter which accompanies these abstracts, makes such further remarks, in elucidation or support of his views, as he may think proper. This letter is accompanied by a copy of the plaint to which Government is called upon to reply (supposing the case to be one in which Government appears as defendant), a draft of the proposed pleading, and all papers (either in original or copies, as may be most convenient,) which have any connection with the case. The superintendent suggests that all officers, whose duty it is to forward plaints and pleadings, either direct or through other authorities, should be enjoined to conform to this mode of procedure.

There is another point also which is still unsettled, and on which the superintendent solicits instructions. He is not aware whether he is to consider himself the channel of communication between the Company's law officers in the Supreme Court and the Mofussil authorities or not.

In his reports to Government, he pointed out the inconvenience which might arise from the absence of all information on the progress of cases pending before the Privy Council, and suggested that the Company's solicitor in England should be instructed to acquaint Government, from time to time, with his proceedings, and to give Government the opinion of the Company's counsel as to the probable result of the suit.

To insure the Government's suit being ably defended or prosecuted in the different local courts, the superintendent has to communicate with the Government pleaders, a list of twenty-nine of whom are given; and the whole are natives, Hindoo or Mohammedan, there not being a single European amongst them. Their duty should be to prepare the draft (of the plaint or plea) from materials supplied by the collector, the latter being responsible for the facts, and the pleader for the law and style; but some collectors supply the drafts entire. The superintendent experiences some inconvenience at present, in being under the necessity of applying to the several Boards for warrants to enable the Government pleaders to appear in each particular case; and he suggests that a general authority be conceded to him to issue the warrants himself.

Each pleader has a government salary of 25 rupees per mensem (I fear Government would look in vain to get a lawyer's tongue equally cheap in England), and certain fees, which do not produce a great compensation. A return from the Patna bar for the years 1843, 1844, and 1845, gives an average of about 2,387 rupees annually to the pleader. The superintendent observes: "This is not a scale of remuneration which holds out any inducement to men of superior attainments; but it must be remembered that the selection of a vakeel as Government pleader by the judge and the commissioner, stamps him as the ablest man at the bar of his court, and almost invariably ensures him an excellent private practice.

Years.	Amount of Fees due in each year.	Amount drawn by the Pleader.	Balance due.
	Co's Rs. A. P.	Co's Rs. A. P.	Co's Rs. A. P.
1843.....	1,259 12 0	627 14 8	631 13 4
1844.....	4,817 0 11	2,923 9 4	1,893 7 7
1845.....	1,087 0 11	757 7 4	329 9 7
Total.....	7,163 13 10	4,308 15 4	2,854 14 6

The Government pleaders were supplied by Government with "Marshman's Civil Guide," and subsequently with a copy of the "Revenue Guide," in Bengalee and Oordoo. The superintendent speaks favourably of the ability of the pleaders, and of Baboo Prosonoocoomar Tagore, the Government Vakeel of the Sudder Court, he cannot speak too highly; he says, "I have been much indebted, on many occasions, to his profound knowledge of the Hindoo law, and his thorough acquaintance with judicial precedents. He is a most zealous and able officer."

Such being the machinery for looking after Government legal affairs, their extent and character remain to be shown. The suits are divided into two great classes; those in which the Government is the defendant, or the subject the appellant; and those in which the subject is the defendant, or the Government the appellant. The suits must all be upon stamped paper, and are cognizable by all the courts down to the Moonsiffs, according to the amount at stake, with power of appeal, as described by me in papers upon the "Administration of Civil and Criminal Justice in India," published in the *Journal of the Statistical Society of London*. The suits against the Government may be classified as follows:—

I. *Suits to establish some substantial Right.*

1. Suits to hold land rent free, or at fixed assessments.
2. Suits for land, or the rent of land, arising out of settlement proceedings.
3. Suits to establish a title to engage for lands under settlement.
4. Suits to establish a title to vacant possessions and properties claimed by or escheated to Government.
5. Suits for reinstatement to office, from which claimants have been dismissed by local agents or other authorities.

6. Suits for the recovery of pensions.

7. Suits for the recovery of sums unjustly realized, rents unduly levied, receipts for rent, and generally from unjust demands.

8. Suits for the recovery of costs, for surplus collections, after an adjustment of accounts; for value of property, and for purchase money.

9. Suits to obtain possession of land, estates, or other property, or for the recovery of rents, or common bond debts.

II. *The next class of cases is that to obtain Redress for Official Acts.*

1. The first of this class and the tenth in a general list, is suits for the reversal of revenue sales on the plea of informality, non liability, &c.

2. Suits relating to the reversal of sales in execution of decrees, on the plea of informality.

3. Suits for the reversal of sales of property pledged as security, on the plea that the property was not liable, &c.

4. Suits to stay revenue sales, or sales in execution of decrees, or sales of property, or sales of property pledged as security.

5. Suits of third parties for land attached or sold by Government, as belonging to others.

6. Suits against magistrates, for acts in their official capacity; but properly the civil courts have no authority over magistrates, and the aggrieved party has his redress only in the sessions courts.

7. Suits to contest orders reversing sales, or awarding fines.

8. And finally, suits for damages done by revenue or other officers.

The above comprise the cases in which the Government has to defend itself against its subjects; and it is sufficiently manifest that the lieges, not less in the variety than in the number of their plaints, are ready litigants, and throw themselves with sufficient confidence upon the impartiality of the courts. Cases illustrative of some of the plaints will be given subsequently.

We come now to cases in which the Government is plaintiff; the first of these are:—

1. Suits to establish a title to assess, or to levy an enhanced assessment.

2. Suits for the recovery of sums misappropriated, from defaulters or their securities.

3. Suits for refund of money paid to parties not entitled to it.

4. Suits for the recovery of sums, from parties or their sureties, for non-fulfilment of contract.

5. Suits for the possession of land, or for rent of land, or for the recovery of debts.

6. Suits to impose fines for infraction of the Salt laws, &c.

Under all these heads the total number of suits pending on the 1st May, 1845, was 541, of which 461 were original suits, and 80 were appeals. There were instituted, during the year 1846, 615 cases, 461 in Courts of first instance, and 154 in the Appeal Courts. The total number of original suits pending and instituted during the year was 922. Of these 384 were decided in favour of, and 81 against Government, 457 were still pending on the 1st May, 1846. The total

number of appeal cases was 234, of which 86 were decided in favour of, and 26 against Government; 122 were pending at the close of the official year. Government obtained on the whole 470 favourable decisions. 107 were adverse, and 579 cases remained undecided. In 20 instances Government was unsuccessful, both in the Court of first instance, and in the Appeal Court.

On the 1st March, 1846, the total number of suits pending was 553, of which 451 were original suits, and 102 were appeals. During the year under review, there have been instituted 502 cases—424 in courts of first instance, and 78 in the Appeal Courts. The total number of original suits pending and instituted during the year is, therefore, 875, of these 280 have been decided in favour of, and 70 against Government, leaving 350 pending on the 1st May, 1847. The total number of appeal cases pending and instituted during the year is 180, of which 55 were decided in favour of, and 13 against Government, 112 being still pending at the close of the year. The total number of favourable decisions in original and appeal suits is 335, of unfavourable 83; 646 cases remain undecided. In 9 of the suits noticed as having terminated unfavourably, Government were unsuccessful both in the Court of first instance and in the Appellate Court. During the year under review, the Government officers disbursed, on account of law expenses, Company's rupees 51,771-6-0. They realized under decrees of court, Company's rupees 1,21,241-15-3.

The several tables will be appended to this paper; but, for the right understanding of the plaints and pleas, both where the subject and the Government respectively stand in the position of plaintiff or defendant, mention of a few cases in detail seem desirable.

In the case of settlement proceedings, or for rent for lands resumed, a doubt had been expressed whether the aggrieved parties could go to a civil court from the Resumption Court, the remembrancer says, the clashing of the decisions of the Special Commissioner and the Civil Court can form no ground for excluding from the Civil Court parties who may consider themselves aggrieved by any act performed by the collector in the execution of a resumption decree. The following case originated before the promulgation of Regulation III. of 1828, but, supposing the judge's decision to be correct, it will afford some idea of the injustice which might occasionally result if parties dissatisfied with a collector's interpretation of the resumption officer's decision, were denied access to the courts of justice.

The village of Ramtoonoonuggur was resumed in 1822. The collector took possession of certain lands, which he understood to be those indicated in the decree. The owners of Damoodurpore, who claimed these lands, petitioned the Board, and were, in 1824, referred to a civil suit for the establishment of their rights. The Sudder Ameen decreed in favour of the plaintiff. Government appealed the case, and the judge decided against the Government.

The question for the decision of the court was, whether a specified parcel of land belonged to the resumed estate of Ramtoonoonuggur or to the settled estate of Damoodurpore. The resumption decree was silent as to the boundaries of the resumed estate, and the judge was of opinion, from the evidence of the Surveyor of the Soonderbuns and Captain Prinsep's map, that the lands of Ramtoonoonuggur had been

washed away by the river, and that the 397 Beegahs occupied by Government were, in fact, a portion of Damoodurpore. The papers had been forwarded to the Superintendent of Survey in the 24 Pergunnahs, with a request, that he would, after surveying the Mehals of Damoodurpore and Ramtoonoonuggur, report whether the judgment of the Civil Court was correct or not. Should it prove to be so, it would be satisfactory to know that Government had been saved from the commission of an act of injustice. Should it be otherwise, Government could have no difficulty in obtaining a review of judgment.

Similar cases are of the greatest importance to thousands of landholders in India who claim to be free from the land tax—and if the liberal opinions of the remembrancer, and his patient investigations, be of general application, justice can seldom fail to be done.

In the suits against Government for escheats, from failure of heirs or other causes, which are of such common occurrence, that, in the late Peshwa's territories in the Deccan, within 20 years, lapses to the amount of more than 20 lacs (200,000*l.*) per annum, fell to the Bombay Government; the remembrancer, in his report for 1845-6, gives a case involving the right of adoption, on which decision is given against Government, by the Zillah Court, to the annual value of 48,666 rupees. The plaintiff, Kernal Move Chowdrin, was a female, and she claimed the possession of certain Zemindaries in Dinagepore, which the Government took as an escheat, on account of the failure of heirs; Government appealed against this decision to the Sudder Court. The plaintiff having died, the case turned upon the validity of an adoption by her. The judge held, that the right to adopt was satisfactorily proved, but the presumptive evidence was so strong against any such authority having been delegated to the widow, and the direct testimony adduced on behalf of the plaintiff was of such a very suspicious nature, that the remembrancer thought Government would have every reason to anticipate a reversal of the judge's decision in the Sudder Court.

But a much more important case was decided against Government in 1845, respecting the Ram Nuggur Zemindary, by the Principal Sudder Ameen (native judge), when it was determined that the sixth in descent from a common ancestor had a right to succeed; this decision being opposed to the law of Mithila, the Government appealed to the Sudder Court, but the award of the native judge was confirmed. Government, nevertheless, applied for a review of judgment; but the Court refused it, insisting that there was a precedent for the decision. The Government pleader, Baboo Prossunno Comar Tagore, collected a mass of authorities which tended to prove, that, according to the law of Mithila, the recognised line of descent, from the common ancestor, was limited to the son, grandson, brothers, and nephews. The Government pleader was anxious that the question should be referred to the chief Pundits at all the principal native courts in India, being confident that their opinions would coincide with his own, and the remembrancer regretted that this suggestion was not adopted in deciding upon such an important point of Hindoo law.

In the course of the argument in this case, there was some discussion relative to the right of the Government to claim an escheat of

landed property, on failure of heirs, or to come in as heir to a Hindoo, one of the incidents of such heirship being the due performance of the usual funeral rites. To the second objection the remembrancer attached little importance; but he said it was certain, that the Government of India *at present possesses no legal right, under the regulations, to escheat an estate in default of heirs, and it may be doubted whether, under the Hindoo law, the Gooroo of the deceased, and even people of the same name, are not considered preferable heirs to the sovereign;* and it is to be considered whether the present state of the law does not render advisable a legislative enactment on the subject of escheats. Here is an instance in which Government pertinaceously resists the decisions of its own courts in succession, from the native judge to the court of the highest appeal; nevertheless, is finally obliged to abandon its objects and desires.

In the class of suits, in 1845-6, against the Government for over collections, recovery of costs, &c., the Government lost 12, involving 35,564 rupees, and gained 13, involving 34,467 rupees. In similar suits for 1846-7, Government lost 22 out of 44.

In suits to obtain possession of land, estates, or other property, Government lost 19, involving 73,649 rupees, and gained 38, involving 147,740 rupees. In similar cases in 1846-7, Government gained 32, and lost only 8. The tenacity with which the right to land is contested is shown in the following instance.

In Moorshedabad, an action was brought against Government for the rent of ground occupied by a Sudder distillery, the rate demanded being 10 rupees a beegah. It appeared that the collector, who built the distillery, took possession of the ground without entering into any agreement with the owner, apparently without even asking his permission. The commissioner, considering 10 rupees a beegah an excessive rent, wished to defend the case; but as the Abkaree superintendent had acknowledged the justice of the plaintiff's claim by giving him a Kabooleut for 10 rupees a beegah, and the rate did not appear to be high for building-land in the vicinity of the Sudder station, the remembrancer recommended that the claim should be admitted, and judgment has accordingly passed against Government.

The next class of suits is one of very great importance to the landholder of India; the right of Government to sell their estates for arrears of revenue, or land tax. The facts must be notorious, and should be apparently unquestionable; nevertheless, in 1845-6, not less than 89 suits were entered against Government; 81 of these, carrying with them a value of 653,440 rupees, were decided in favour of Government, and 8 were decided against Government, of the value of 22,461 rupees; that is to say, these 8 sales were reversed.

Parties are sufficiently alive to decrees in their favour, as the following case shows, where the sale of an estate appears to have been not only reversed, but Government had to pay interest on the purchase money.

One Ramgutty Naug obtained a decree against Government in the 24 Pergunnahs, for 3,952 rupees, on account of interest on the purchase money of an estate, the sale of which had been reversed. This purchase money was paid, after the reversal of the sale, to a person of the name of Ramcoonar Roy, who gave the collector an agreement, bind-

ing himself to make good whatever sums might, after adjustment of accounts, appear due to Ramgutty Naug. This agreement, however, he never fulfilled. Government recovered the principal of the purchase money from him, and instituted an action against his heirs for recovery of the sum awarded against Government in this action, on account of interest.

In 1846-7, Government had 12 of their sales of estates reversed, but they gained 38, besides 6 appeal cases, and the latter involved above 260,000*l.* sterling.

In one of the Backergunge cases, which terminated unfavourably, the suit was decreed against Government, on evidence produced by the plaintiff, that he had tendered an arrear of revenue to the treasurer before sunset of the latest day, but that this official had refused to receive it. The remembrancer says, it is evident that this decision, if allowed to stand, will form a very dangerous precedent. Nothing can be easier in Bengal, than to procure witnesses to swear that money was tendered to the treasurer at any particular hour, and it is next to impossible for this officer to prove a negative. If the treasurer refused the money, the plaintiff ought to have proceeded at once to tender it to the collector himself, and, under any circumstances, an arrear of revenue being due, his action, the remembrancer conceives, lay against the treasurer for damages, not against the Government for reversal of sale: Government has instituted an appeal.

In another case, in the same district, also decided against Government, an action was brought to reverse the sale of a part of Pergunnah Sulemabad, sold for arrears of revenue under Regulation XI. of 1822. The plaintiff alleged that he had been ready to pay in the true balance, but that the deputy collector, having demanded 98 rupees in excess, and given him till the evening to procure it, he left the Cutcherry to obtain this sum; and on his return with the full amount, found that the estate had been sold in his absence. He supported this statement by pointing to certain erasures in the lotbundee, an entry in the Nazir's memorandum book, and a petition dated the day of the sale, but disposed of by an order of the deputy collector, two days afterwards. The judge, considering the plaintiff's allegations to be well founded, passed a decree in his favour, and an appeal on the part of Government has been preferred in the Sudder Court.

In the Government petition of appeal strong grounds are shown for believing that the erasures in the lotbundee, and the entry in the memorandum book, were fraudulently effected *after* the sale, in collusion with the Umlah; and the petition alleged to have been presented on the day of sale, plainly alludes to that day as a date that was passed. Irrespective of this, moreover, the judge altogether failed to show any *legal* ground for the reversal of the sale. It is clearly laid down in section 4, Regulation XI. of 1822, and it has also been ruled in the case of Mobaruck Allee *versus* Government and others, decided on the 5th July, 1843, that a sale under Regulation XI. of 1822, cannot legally be quashed, unless some one of the conditions enumerated in section 5 be violated, which was not the case in this instance. The fourth of these conditions declares it to be sufficient to ensure the validity of a sale, that "some part of the amount demanded in the notice" be due "at the time of the lot being put up," and under

section 10 of this Regulation, the party who disputes the correctness of the demand, is bound to deposit the full amount before having recourse to the Civil Court. The tender on the day of sale of what the defaulter believes, and what may afterwards turn out to be the true balance, is clearly not sufficient to invalidate the sale. This case is useful in showing the minute forms to which the sale of estates is subjected.

In a Rajshahye case, the judge held a revenue sale to be valid, but "ordered that the Government, in its clemency, should be solicited to restore to the plaintiff his share under the provisions of section 26, Regulation XI. of 1822." As he saddled Government, however, with the purchaser's costs, in addition to their own, an appeal was instituted by the Board to set aside that portion of the decree.

Under this head of suits, the remembrancer remarks that suits for the reversal of revenue sales will become less and less frequent in future years. Those now pending have principally been instituted to contest sales under Regulation XI. of 1822. The present Sale law is so clear, and has narrowed so materially the grounds on which the proceedings of the collector were formerly impugned, that landholders no longer trust to the chances of an action, to remedy the consequences of their own carelessness.

Under the tremendous power of Government to beggar a native gentleman who is a landlord, for arrears of land tax, it is consolotary to see that the acts of the revenue authorities are immediately amenable to the Civil Courts, and that an injured party, at the cost of a few shillings for stamped paper, and a trifling fee (or, as the case may be, suing in *formâ pauperis*) to a pleader, can get his case heard. There must be great inconvenience and expense in the distance the suitor has to travel in some instances to a court, but this evil has been much mitigated by the establishment of late years of Moonsiffs Courts in the districts.

In 1846-7, in suits of third parties against Government for improper sales, the Government lost a suit in which some mangoe trees were sold twice over by a collector, to two different parties. The first purchaser sued the collector and the second purchaser to establish his title. Formerly it would have been sufficient to plead, that as the rights and interests of the original proprietor had alone been sold, and as the purchaser ought to have satisfied himself before the sale what these rights and interests were, the collector was not responsible, even if it should prove, as in this case, that the party named had no rights or interests in the property whatever. The Sudder, however, ruled last year in the case of Achee Loll *versus* Beebee Busrah, reported at page 216 of the Sudder decisions for 1846, that "to constitute a sale, *something* must be given for the consideration paid." As Government had given nothing in this case, Government necessarily confessed judgment.

In the cases in which the Government is plaintiff, it appears that it has often to meet with a disappointment. In the first class of suits, to establish a title to assess, or to levy an enhanced assessment, it appears that it lost 8 suits, involving 14,276 rupees. It appears that the Pokhereah estate, in Zillah Mymensing, was restored during the

course of last year to the ex-proprietor, and the commissioner was instructed "that the Government was, as soon as the negotiation was brought to a close, to withdraw from all pending suits, recovering from the Zemindar all expenses disbursed up to the date of such withdrawal, and leaving the Zemindar to continue the suits on his own account or not as he might think proper." It appeared that this party carried on the eight suits as having been decided against Government.

Government, however, succeeded in 102 other instances, involving the right to assess to the amount of 149,884 rupees; but it is satisfactory to see that the Government is obliged to go to law to entitle it to enhance its assessments upon land, that is to say, to increase its land tax; a power which, under Native Governments, place the landlord at the entire mercy of farmers of the revenue, which class of persons, however, is comparatively of modern introduction, for it was the boast of the Hindoo revenue system that the land tax was fixed. In 1846-7 two suits are interesting as showing the *bonâ fides* of the remembrancer.

Two suits for possession of certain Nowarrah Mehals, laid at rupees 7,756-2-0, have been decided against Government in the district of Mymensing. These Nowarrah Mehals formed part of the Jagheer of Nawab Moobarukoo-Dowlah, which lapsed upon the death of that personage, and were attached by the collector of Mymensing in 1834. In 1839, the Board, in concurrence with the commissioner's recommendation, directed that the Mehals should be re-assessed. Instead of proceeding to re-assess them, however, the collector instituted suits for their resumption, under Regulations II. of 1819 and IX. of 1825. These suits were dismissed with costs by the special commissioner, who remarked that the Resumption Regulations were totally inapplicable to cases of this nature, and that the collector ought to have proceeded according to the provisions of sections 49, 50, and 51, Regulation VIII. of 1793, and other similar enactments. On this, the collector instituted suits for possession of the Mehals; but the Sudder Ameen, before whom the case was tried, decreed against Government on the grounds that Government had no right to dispossess parties who had been so long in possession, and that the collector had mistaken his instructions in suing for possession of the estates instead of an increase of land tax.

From this decision, the remembrancer says, the collector and the commissioner were desirous of appealing. He dissented, however, for the following reasons: "The parties in possession of these Nowarrah Mehals," he remarked to the Board, "appeared to him to be Mocurrureedars of the nature of those decribed in section 19, Regulation VIII. of 1793; and as the Mehals have never been included in the decennial settlement, he conceived that the collector ought to deal with them himself under the Settlement Regulations, without applying to any court whatsoever. The collector gives as a reason for instituting this suit, that the Talookdars were recusant and refused to settle; but in that case it was open to him, under section 43, Regulation VIII. of 1793, to hold the lands Khas, or to let them in farm. A suit for possession under such circumstances is not, he apprehended, authorized by any regulation." The Board concurring in this view, instructions were issued accordingly.

The next cases are those in which Government sues defaulters or their securities. In this class Government gains only 39, of the value of 8.752 rupees, and loses 5, of the value of 50,240 rupees.

The Mysadul Darogah embezzled a very large sum, upwards of 50,000 rupees, and actions were in consequence brought against Mudun Mohun and another surety, who had executed a precisely similar bond. The principal Sudder Ameen at Midnapore decreed in favour of the sureties, holding them liable only to the extent of their deposits. An appeal was preferred to the Sudder Court; but the presiding judge confirmed the decision of the lower court in all five cases, remarking, that so far as related to the deposit of 5,000 rupees all was "clear, distinct, and specified;" but that the subsequent condition was "general, vague, indeterminate, and indefinite, binding the surety to an amount unknown and unlimited."

Against the decision of the Supreme Court, the remembrancer recommended a review of judgment, in hopes that as the point was one of considerable importance, and one moreover on which the members of the court entertained conflicting opinions, it would be referred for decision to a full bench. His application was, however, rejected, and as the Advocate-General did not consider an appeal to the Privy Council advisable, there the matter rests. The case has not as yet been included among the published Precedents of the Sudder; but the lower courts are not unapt to act upon the printed decisions of the Sudder judges, as if they possessed the authority of precedents—it is therefore not improbable, that Government may be sufferers to a serious extent, unless some alteration takes place in the form of the surety bonds at present in use.

Here is the gigantic Government of India powerless against its own courts and officers removeable at pleasure, and not venturing upon an appeal against its own courts to the Privy Council. In suits in this year for the possession of land the Government has lost 4, involving 108,759 rupees, and gained 4, involving 9,646 rupees.

One of the cases illustrates, in a forcible manner, the proprietary right in the soil, a matter which so long has been and still is disputed by high authorities. Two cases under this head have been unsuccessfully prosecuted by the Government officers in the Zillah Court. In one, the collector of Patna brought an action for certain lands which he claimed as the property of Government, on the ground of their being situated *in the old ditch of the fort* at that station. The decision of the Court was against the Government, and the Board abandoned the appeal, which the commissioner was desirous of preferring. It does not appear that Government has valid title to the land.

Another is a very important case, the remembrancer says, relative to a portion of the land in the Kidderpore dockyard near Calcutta. This suit originated in a claim advanced by one Gobind Chunder Bannerjee, in 1836, to a portion of land which Government had included in a lease to Mr. Kyd, of their Udhye Gunga Jheel estate; but which Gobind Chunder asserted formed part of his lakheraj, or rent-free holding of Sahiban Bageetcha. The suit was at first defended by Government and by Mr. Kyd's executors; but the Commissioner of Revenue subsequently seeing reason to believe that the land really did

belong to Sahiban Bageetcha, on the 27th December, 1837, directed the collector to confess judgment.

On the 30th July, 1838, Government, through the Marine Board, purchased from the Dockyard Company, the rights and interests of that body in certain property, which they again had bought from Mr. Kyd. The property thus acquired, included the former portion for which Gobind Chunder sued—the whole of his Sahiban Bageetcha lands having been sold at a sheriff's sale, within three months after the institution of the suit against Government, and the portion which contained this parcel having been purchased by Mr. Kyd. Of this circumstance, however, both Government and Mr. Kyd's executors were ignorant, and it was not discovered until a considerable time after the purchase by the Marine Board had been completed. So little aware, indeed, were the local authorities of the fact, that the Commissioner of Revenue made several offers to purchase the disputed land so late as 1839, nearly a year after Government had actually become the legal proprietor.

On ascertaining how the case stood, a petition was immediately presented to the judge, pointing out that Gobind Chunder had no interest in the lands for which he had obtained a decree, and the Government agent was, in consequence, authorized to institute a suit against that individual, provided there should be no legal impediment to Government so doing. An action was accordingly brought by the Marine department, but dismissed by the Sudder Ameen, on the ground that the cause of action was the same as in the previous suits and that Government was consequently barred from proceeding by section 16, Regulation III., of 1793.

In the Government petition of appeal against this decision, the greatest pains were taken to point out, that although the *subject* of action in the two suits was the same, the *cause* of action was totally distinct; that Government had, in the former suit, claimed the lands in virtue of right as owners of Udhye Gunga Jheel, but that Government now sued for them as purchasers of the rights and interests of Gobind Chunder Banerjea, in Sahiban Bageetcha. The judge, however, took the same view of the case as the Sudder Ameen, and Government has therefore been compelled to prefer a special appeal to the Sudder Court.

Should Government be defeated in this case, the consequences would be most serious; 15,000 rupees have been expended by Government, within the last few years, in raising, piling, and otherwise defending the disputed land. Besides the loss of this sum, and of the purchase money of the ground, the injury, Captain Johnstone states, "which Government would sustain by the alienation of this land would be the destruction of a dock recently built for inland steamers, the necessity of abandoning projects, sanctioned by Government, for providing wet dock and coal depôts for steam vessels, and the annihilation of every hope of bringing the two Government establishments at Kidderpore, viz., the steam foundry and dockyard, within one enclosure, a measure acknowledged by the very best authority to be most desirable. The remembrancer says, "Although sanguine as to the result, I look with some anxiety for the decision of the Appellate Court. If unfavourable, no course will be left but to purchase the land under the provisions of Regulation I. of 1824.

In 1846-7, the remembrancer reports, notwithstanding his former assurance of success, that the Kidderpore case has been decided against Government in the Sudder Court, although on grounds somewhat different to those taken by the Lower Courts. He had already reported so fully on this case through the Sudder Board, that it is unnecessary to notice it further in this Report.

The plaintiff in the former Kidderpore case has instituted another suit against Government in the 24 Pergunnahs, for a further portion of the dockyard lands, which he values at 88,241-6-4. It would, however, be premature at present to enter upon any discussion of the merits of this case. No better instance than this could be afforded of the security of the civil rights of the people, and of the helplessness of Government to effect even an important public object when the rights of property operate as a barrier.

The Government, in addition to its own suits, is also subject to litigation on account of the affair of a Commission constituting a Court of Wards, which has charge of minors, estates, and affairs. For instance, an action was brought in Rajshahee against the collector and a minor, whose estate is under the Court of Wards, but for whom no guardian had been appointed, the parties applied to having declined to act. The collector objected to defend the suit, on the ground that the estate was so poor, that the Government would be compelled to pay the costs of suit, if the case should go against the minor, and stated his opinion that a collector could not legally be made a defendant in an action for debt against a Government ward. The commissioner objected to this that the first argument would afford ground for questioning the expediency of retaining the management of the estate, but did not affect the point at issue; and in reply to the second objection, quoted clause 1, section 32, Regulation X. of 1793.

Looking at the case of Nundkoomar Roy *versus* Ramhuree Priya and Government, page 235, vol. V., of the Sudder Court's report, wherein the collector is distinctly recognised as the agent of the Court of Wards, and the Court of Wards as the official guardian of the minor, the remembrancer was of opinion that the suit was correctly laid against the collector under the section quoted by the commissioner, and that it was the duty of Government to defend it. The correspondence being submitted to the Board, their decision was that while it was the duty of the collector, in such cases, to conduct the defence of the minor, through the agency of the Government vakeel, the nonliability of the collector himself to be sued should, on principle, be asserted, and a nonsuit applied for on that ground; section 32, Regulation X. of 1793, they observed, merely required that in cases where there were guardians these must be parties to the suit. Where there were no guardians, minors might, the Board conceived, be sued by themselves.

The law charges are necessarily of considerable magnitude; in 1843-4 they were 16,226 rupees, in 1844-5 they were 17,601 rupees, and in 1845-6 they were 61,181 rupees; but the outlay is more than counterbalanced by the sums recovered. For instance, the law disbursements of the Government, as compared with their law receipts, during 1845-6 were, including costs awarded against the different departments of the Government in regular suits and actually disbursed,

rupees 36,825; the amount received under this head was rupees 169,611. The amount expended in the prosecution of suits in court was rupees 10,571; in the defence of suits, rupees 11,846; a large proportion of this was recovered, and is included among the receipts. The amount is small when it is considered in how many suits the Government have been engaged during the year. 258 rupees were advanced in Privy Council appeals; rupees 24,808 were recovered in cases of this description. Costs in pauper suits were rupees 1,157; the costs realised in these suits amount to rupees 39,334. Miscellaneous disbursements on account of judicial proceedings were rupees 4,841; the receipts under the same head, rupees 12,970. In the Salt and Opium departments the fines and penalties in favour of Government amounted to rupees 806.

The remembrancer says he is not able to give the total amount of disbursements in pauper suits in 1845-6, but the amount of costs, independent of stamp duty, debited against paupers in the different collectorates, must be very large; the Commissioner of Cuttack states it at upwards of 80,000 rupees, in three districts of his division alone. What proportion of this may be costs incurred in suits against Government he is not aware; but as a measure of simple justice, he strongly recommends the remission of such sums as cannot be classed under this head. The amount value of stamped paper due to Government in pauper suits, on the 1st May, 1846, was 344,626 rupees, the suits pending being 1,112; on the 1st May, 1847, it was 304,564 rupees.

The balance due on account of advances to parties who had appealed to the Privy Council, in 1845-6, was 233,404 rupees, and on the 1st May, 1847, it was 155,123 rupees, much of which is irrecoverably lost, for in two balances, of 30,488 rupees and 31,630 rupees, the parties have no property whatever. It will be recollected this relates to Bengal alone, and not to the whole of appeals to the Privy Council from all India.

The outstanding balances due to Government under decrees of court, are also very large, for 1845-6 they were,—

	Rupees.
Privy Council Decrees	233,404
Revenue Decrees	151,906
Salt and Opium Decrees	471,727
Military Department Decrees	7,196
Post Office Decrees	180
Total	864,415
Pauper Suits	344,626

In 1846-7, the outstanding balances were,—

	Rupees.
Revenue Decrees	191,631
Salt and Opium Decrees	511,331
Privy Council Advances	155,123
Pauper Suits	304,564

The remembrancer, Mr. Samuells, in his reports to Government, manifests a liberal and kindly consideration for the people; for instance, in the case of the practice still obtaining amongst Zemindars and landlords, of levying market dues, for the sites of markets and for

market sales, dues abolished by Lord Cornwallis, he says, the Government, in order to protect their subjects from the oppression to which it was notorious they were subjected, through means of these illegal cesses, made very considerable sacrifices of revenue, and threw open to parties aggrieved by an infringement of the law, the doors both of the Civil and the Criminal Courts; but these sacrifices have been made in vain, and the laws are wholly inoperative. The remembrancer doubts if there be a single instance, in which the free use of the ground on which Hauts, established prior to 1793, are situated, is permitted to the public. The Zemindars accepted the compensation which the Government offered them, but retained their Hauts notwithstanding, levying from the petty traders and the villagers who frequent them, Sayer and other taxes—most vexatious and oppressive from their character and their amount.

The remembrancer says the same state of things prevails in all Hauts and Bazars, whether new or old. Abwabs, Muhtoles, and Sayer taxes, under a dozen different denominations, are everywhere exacted in direct defiance of the law. Still worse is the case with regard to the extortions practised by the landlords on their unfortunate ryots. Not only is the price of every necessary of life enhanced to these men by the Bazar duties, but direct taxes, sometimes in kind and sometimes in money, are imposed upon them on every conceivable pretext; a marriage, a birth, the arrival of a guest, the occurrence of a poojah in the house of his landlord, form but a tithe of the occasions on which the ryot is called upon to contribute. So numerous and so heavy are these exactions, that they are estimated, by an experienced planter, as equivalent to a tax of 70 per cent. on the ryot's land tax. He has long been of opinion that this system is one of the master evils of the permanent settlement; so long as it is allowed to prevail, so long as the faces of the poor are ground by uncertain and ever recurring demands of this nature, it seems to him in vain to hope for any material amelioration in the condition of the people.

The remembrancer says the causes of the insufficiency of the present law are obvious. Redress in the civil courts is only to be obtained at a serious sacrifice of time, if not of money, and the sums extorted by the landholders from each individual, though large with reference to the ryot's means, are so small in actual amount, that a recourse to the civil court for their recovery would, in all probability, be attended with positive loss. Add to this, that the principle of combination for public objects is unknown to the mass of the people, and it will readily be understood why the enactments which refer the people to the civil courts in cases of this nature have become in effect a dead letter.

The remembrancer further shows his liberality with respect to granting copies of public papers, for he says the commissioner of Rajshahye having addressed me on the subject of granting copies of public letters on the requisition of the courts, a practice which he considered objectionable, I stated in reply that I considered the principle which the Board had adopted with regard to granting copies of public documents to private individuals to be the correct one, viz., that the public should be freely allowed copies of all letters, "excepting such as might contain their (the Board's) views of a suit in which Government were concerned, and might be used to the prejudice of Government, and

letters animadverting on the conduct of public officers, which could not be required for any good purpose." Documents granted to private individuals could not, he conceived, be withheld from a court of justice. And he is decidedly opposed to summary proceedings on the part of collectors, for, in a case of this kind, he says, the Board, on a reference from Rajshahye, having requested my opinion as to the competence of a collector, in the course of the settlement of a purchased Mehal, to take summary possession of lands usurped by neighbouring Zemindars; I gave it as my opinion that they were not authorized to use summary measures in such a case, and that in order to obtain possession, it would be necessary to institute a suit in the civil court. My own opinion, and I believe that of all the most able revenue officers in the Presidency is, that cases such as this are cognisable under Regulation IX. of 1825; but Government, some years since, on a reference from the Board, decided otherwise.

Appended are the several tabular statements of the various cases and disbursements.

I have now shown, by a selection of such facts, from the reports of the Bengal remembrancer (Mr. Samuells), as were best adapted for the object, that under a Government essentially military, the genius of our admirable democratic institutions has its influence, and that, as in the mother country, the poor and the weak are provided with the means, or given the opportunities of maintaining their rights and privileges against the rich and the powerful.

No. 1.—ABSTRACT STATEMENT *showing the Amount Value of Stamped Paper, &c., due to Government in Pauper Suits for the Year* 1845-46.

ZILLAH.	Amount Value of Stamp Paper, &c., due to Government up to the 30th April, 1846.		Deduct.						Remainder.		Deduct Remitted by Civil Judge or other Authority.		Remaining Unrealized on the 1st May, 1846.	
			Realized in Full up to the 30th April, 1846.		Ditto in Part.		Total Realized up to the 30th April, 1846.							
	No.	Amount.	No.	Amount.	Amount.		No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		Rs. A. P.		Rs. A. P.	Rs A. P.			Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.
Patna	278	41,352 8 2	12	1,303 4 0	416 3 3		12	1,719 7 3	266	39,633 0 11	...	...	266	39,633 0 11
Behar	106	33,515 7 9½	6	4,586 5 4½	7,793 4 9		6	12,379 10 1½	100	21,135 13 8	...	...	100	21,135 13 8
Sarun	46	12,037 3 0	10	2,066 8 0	1,016 14 7		10	3,083 6 7	36	8,953 12 5	...	...	36	8,953 12 5
Shahabad	107	10,564 13 9	8	257 3 4	991 13 1		8	1,249 0 5	99	9,315 13 4	...	...	99	9,315 13 4
Bhaugulpore	47	12,163 5 5	8	1,237 5 3	486 4 3		8	1,723 9 6	39	10,439 11 11	...	...	39	10,439 11 11
Dinagepore	1	57 6 0	...	...	...		...	...	1	57 6 0	...	...	1	57 6 0
Purneah	6	1,558 8 0	1	26 0 0	...		1	26 0 0	5	1,532 8 0	...	...	5	1,532 8 0
Tirhoot	83	34,595 10 0	4	220 8 0	321 3 3		4	541 11 3	79	34,053 14 9	...	...	79	34,053 14 9
Moorshedabad	27	4,567 5 0	4	242 13 0	225 8 0		4	468 5 0	23	4,099 0 0	...	..	23	4,099 0 0
Rajshahye	21	2,785 0 0	4	256 0 0	284 2 8		4	540 2 8	17	2,244 13 4	...	...	17	2,244 13 4
Rungpore	184	21,599 15 8½	34	1,896 12 1½	1,103 6 5		34	3,000 2 6½	150	18,599 13 2	...	...	150	18,599 13 2
Beerbhoom	167	16,859 3 7	26	1,851 6 3	2,049 0 8		26	3,900 6 11	141	12,958 12 8	1	338 0 0	140	12,620 12 8
24 Pergunnahs	371	71,871 11 0	8	2,314 9 1	1,423 13 0		8	3,738 6 1	363	68,133 4 11	19	1,855 4 0	344	66,278 0 11
Jessore	114	16,856 5 8	18	2,194 2 6	1,301 3 11		18	3,495 6 5	96	13,360 15 3	...	...	96	13,360 15 3
Nuddea	118	20,160 1 7	3	277 10 0	1 2 0		3	278 12 0	115	19,881 5 7	...	...	115	19,881 5 7
Burdwan	14	2,392 14 6	1	18 6 6	75 8 0		1	93 14 6	13	2,299 0 0	...	...	13	2,299 0 0
Bancoorah	29	3,124 2 3	5	343 2 6	105 0 0		5	448 2 6	24	2,675 15 9	...	...	24	2,675 15 9
Hooghly	32	2,991 8 3	5	127 15 0	104 6 9		5	232 5 9	27	2,759 2 6	7	...	20	2,759 2 6
Dacca	120	19,249 8 10½	27	3,373 0 0½	535 8 8½		27	3,908 8 9	93	15,341 5 1½	1	51 12 2	92	15,289 8 11½
Backergunge	51	8,500 13 0	13	1,387 4 6	589 0 10		13	1,976 5 4	38	6,524 7 8	...	...	38	6,524 7 8
Mymunsing	105	7,519 1 7	14	499 1 7	325 7 3		14	824 8 10	91	6,694 8 9	...	...	91	6,694 8 9
Sylhet	19	3,602 4 8	2	131 0 0	78 13 9		2	209 13 9	17	3,392 6 11	...	...	17	3,392 6 11
Cuttack	61	12,846 6 2	12	2,451 15 2	36 7 10		12	2,488 7 0	49	10,357 15 2	...	...	49	10,357 15 2
Pooree	16	11,464 7 10	4	271 0 0	...		4	271 0 0	12	11,193 7 10	6	2,780 10 1	6	8,412 13 9
Balasore	11	2,611 5 6	1	48 0 0	1 0 2		1	49 0 2	10	2,562 5 4	...	...	10	2,562 5 4
Midnapore	64	16,542 15 3	2	371 6 6	150 0 0		2	521 6 6	62	16,021 8 9	...	...	62	16,021 8 9
Chittagong	14	2,599 13 8	3	291 3 8	874 6 0		3	1,165 9 8	11	1,434 4 0	...	...	11	1,434 4 0
Tipperah	13	3,187 13 0	2	152 4 0	292 5 0		2	444 9 0	11	2,743 4 0	...	...	11	2,743 4 0
Bullooah	6	1,447 8 0	...	...	194 12 7		...	194 12 7	6	1,252 11 5	...	...	6	1,252 11 5
Total	2,231	3,98,625 3 2½	237	28,196 2 4½	20,776 7 8½		237	48,972 10 1	1,994	3,49,652 9 1½	34	5,025 10 3	1,960	3,44,626 14 10½

No. 1.—Continued.

ABSTRACT STATEMENT *showing the Amount Value of Stamped Paper, &c., due to Government in Pauper Suits for the Year* 1845-46.

ZILLAH.	Deduct. No. of Cases struck off the File of the Court for want of Assets.		Ditto for Default.		No. of Cases pending in Appeal, or under Re-Trial.		No. of Cases in which, in consequence of there being no Assets, or from other causes, no steps have been taken to recover the Government Dues.		No. of Cases of which the Records have been destroyed by Fire, &c., &c.		Total.		Total No. of Cases pending on the File of the Court on the 1st May, 1846.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.
Patna	20	4,929 13 0	...	...	9	1,353 2 0	55	2,690 3 9	...	...	84	8,973 2 9	182	30,659 14 2
Behar	...	...	...	...	...	...	...	...	...	...	...	...	100	21,135 13 8
Sarun	15	4,418 0 0	...	...	...	...	...	...	...	...	15	4,418 0 0	21	4,535 12 5
Shahabad	26	1,263 8 0	...	...	1	333 0 0	21	2,451 0 0	...	...	48	4,047 8 0	51	5,268 5 4
Bhaugulpore	1	1,053 8 0	...	...	4	1,225 0 0	6	3,352 8 0	...	...	11	5,631 0 0	28	4,808 11 11
Dinagepore	...	...	...	...	...	...	...	...	...	...	...	...	1	57 6 0
Purneah	...	...	...	...	...	...	...	...	...	...	...	...	5	1,532 8 0
Tirhoot	...	...	...	...	...	...	...	...	...	...	...	...	79	34,053 14 9
Moorshedabad	8	1,696 13 0	...	...	...	...	...	...	...	...	8	1,696 13 0	15	2,402 3 0
Rajshahye	5	675 15 9	...	...	...	...	...	...	...	...	5	675 15 9	12	1,568 13 7
Rungpore	80	8,873 0 7½	...	...	...	...	...	...	...	...	80	8,873 0 7½	70	9,726 12 6¼
Beerbhoom	41	2,605 13 3	...	...	2	151 4 0	2	904 0 0	...	...	45	3,661 1 3	95	8,959 11 5
24 Pergunnahs	46	10,064 3 4	...	...	1	698 10 9	238	46,665 4 2	...	...	285	57,428 2 3	59	8,849 14 8
Jessore	50	6,286 14 1	1	49 12 0	7	1,677 12 6	...	...	...	...	58	8,014 6 7	38	5,316 8 8
Nuddea	4	618 9 0	...	...	3	1,305 11 0	...	...	...	...	7	1,924 4 0	108	17,957 1 7
Burdwan	2	288 7 9	...	...	3	809 8 2	...	...	...	...	5	1,097 15 9	8	1,201 0 3
Bancoorah	5	511 7 2	...	...	1	59 8 0	...	...	...	...	6	570 15 2	18	2,105 0 7
Hoogly	6	635 3 3	...	...	...	...	5	678 2 3	...	...	11	1,313 5 6	9	1,445 13 0
Dacca	38	5,236 9 10½	...	...	3	425 0 0	...	...	19	...	60	5,661 9 10½	32	9,627 15 1
Backergunge	14	2,950 2 2	...	...	3	1,174 0 0	...	...	...	...	17	4,124 2 2	21	2,400 5 6
Mymunsing	21	1,986 2 9	...	...	...	...	...	...	34	1,548 12 0	55	3,534 14 9	36	3,159 10 0
Sylhet	12	1,006 12 6	...	...	...	...	...	...	...	...	12	1,006 12 6	5	2,385 10 5
Cuttack	...	...	...	...	...	...	...	...	...	...	...	...	49	10,357 15 2
Pooree	...	...	...	...	1	1,034 8 0	...	...	...	...	1	1,034 8 0	5	7,378 5 9
Balasore	...	...	...	...	...	...	6	1,516 8 6	...	...	6	1,516 8 6	4	1,015 12 10
Midnapore	20	6,754 14 8	...	...	...	...	...	...	...	...	20	6,754 14 8	42	9,266 10 1
Chittagong	3	534 13 0	...	...	...	...	...	...	...	...	3	534 13 0	8	899 7 0
Tipperah	3	1,027 4 0	...	...	2	247 0 0	...	...	...	...	5	1,274 4 0	6	1,469 0 0
Bullooah	...	...	...	...	1	54 8 0	...	...	...	...	1	54 8 0	5	1,198 3 5
Total	420	63,417 15 2	1	49 12 0	41	10,548 8 3	333	58,257 10 8	53	1,548 12 0	848	1,33,822 10 1	1,112	2,10,804 4 9½

FORT WILLIAM,
The 14th December, 1846.

E. A. SAMUELLS,
Superintendent and Remembrancer of Legal Affairs.

No. 2.—GENERAL ABSTRACT STATEMENT *showing the Sums due to Government on account*

Division.	Zillah.	Amount due to Government on account of Stamp Duty.	Amount due on account of Costs, exclusive of Stamp Duty.	Total.	In preceding Years.
Patna.....	Patna*				
	Behar*				
	Sarun	11,056 3 9	19 9 7	11,075 13 4	1,031 10 4½
	Shahabad	9,360 14 5	56 12 0	9,417 10 5	310 0 10
Bhaugulpore ..	Bhaugulpore .	6,542 0 0	344 15 11	6,886 15 11	79 10 9
	Dinagepore ..	1,708 6 8	645 10 2	2,354 0 10	..
	Monghyr	4,820 5 8	..	4,820 5 8	106 10 0
	Purneah	2,145 0 0	..	2,145 0 0	..
	Tirhoot	35,157 14 3	218 14 9	35,376 13 0	1,243 2 3
	Maldah	8,699 1 11	30 0 0	8,729 1 11	..
Moorshedabad	Moorshedabad	4,659 11 0	8 12 7	4,668 7 7	121 9 6
	Bogoorah	..	..	..	..
	Rungpore	24,562 10 4	659 11 2	25,222 5 6	2,985 10 10
	Rajshahye ...	4,056 8 0	..	4,056 8 0	..
	Pubnah.....	..	..	..	..
	Beerbhoom ..	14,682 0 0	5,244 8 11	19,926 8 11	2,038 6 11
	Nuddea	24,063 7 7	..	24,063 7 7	435 12 6
Jessore	Soonderbuns..	..	..	..	..
	24 Pergunnahs	66,943 4 5	58 15 0	67,002 3 5	1,369 7 4
	Calcutta	..	..	..	..
	Jessore*				
	Burdwan	13,083 10 0	..	13,083 10 0	1,617 8 5
	Hooghly*				
	Bancoorah ...	4,316 0 0	241 7 4	4,557 7 4	474 15 3
	Baraset.....	..	..	..	..
Dacca	Dacca	9,721 7 10	..	9,721 7 10	..
	Furreedpore ..	..	..	..	..
	Sylhet.....	4,244 8 3	183 15 5	4,428 7 8	..
	Backergunge .	5,869 9 1	..	5,869 9 1	568 12 4
	Mymunsing ..	10,576 13 4	..	10,576 13 4	879 9 6
Cuttack	Cuttack	13,763 8 8	..	13,763 8 8	18 14 0
	Balasore	2,690 13 6	..	2,690 13 6	..
	Khoordah	8,072 3 2	1,007 12 0	9,079 15 2	271 0 0
	Midnapore ...	17,731 3 10¾	450 10 10	18,181 14 8¾	150 0 0
Hazareebaugh.	Hazareebaug .	..	..	..	..
	Lohardangah .	..	..	..	..
	Maunbhoom ..	..	..	..	..
Assam	Durrung	..	..	..	..
	Gowalparah ..	507 8 0	..	507 8 0	..
	Kamroop	..	..	..	..
	Nowgong	..	..	..	..
	Luckimpore ..	..	..	..	..
	Seebsaugor ...	..	..	..	..
Chittagong ...	Chittagong ...	10,078 9 1	..	10,078 9 1	..
	Tipperah.....	6 271 14 11	..	6,271 14 11	229 2 4
	Bullooah.....	6,418 12 9	..	6,418 12 9	842 13 7
Arracan	Aeng	..	..	..	..
	Ramrie	..	..	..	..
	Sandoway ...	..	..	..	..
	Total	3,31,804 2 5½	9,171 11 8	3,40,975 14 1½	14,774 12 8½

FORT WILLIAM,
The 3rd October, 1847.

of Stamp Duty, &c., in Pauper Suits, realized and outstanding on the 1st *May*, 1847.

Realized.		Balance.			Remarks
From 1st May, 1846, to 30th April, 1847.	Total realized.	Outstanding on the 1st May, 1847.	Remitted by order of Comr. of Bev. or other authority.	Net Balance outstanding on the 1st May, 1847.	
156 1 7	1,187 11 11½	9,888 1 4½	..	9,888 1 4½	* No returns have been received from the Collectors of Patna, Behar, Jessore, and Hooghly.
255 11 3	565 12 1	8,851 14 4	4,233 10 11	4,618 3 5	
292 2 0	371 12 9	6,515 3 2	..	6,515 3 2	
183 12 10½	183 12 10½	2,170 3 11½	..	2,170 3 11½	
70 11 4	177 5 4	4,643 0 4	..	4,643 0 4	
592 8 0	592 8 0	1,552 8 0	..	1,552 8 0	
567 13 3	1,810 15 6	33,692 12 3	..	33,692 12 3	
..	..	8,729 1 11	..	8,729 1 11	
438 12 10	560 6 4	4,108 13 6	..	4,108 13 6	
..	..	..	..	..	
1,305 14 6	4,291 9 4	20,930 12 2	..	20,930 12 2	
56 13 1	56 13 1	3,999 10 11	753 8 0	3,246 2 11	
..	..	..	..	..	
819 14 6	2,888 5 5	17,038 3 6	..	17,038 3 6	
517 5 1	953 1 7	23,111 0 9	..	23,111 0 9	
..	..	..	..	..	
1,712 6 7	3,081 13 11	63,920 5 6	..	63,920 5 6	
.. ..	..	..	..	..	
170 13 1	†1,788 5 6	11,295 4 6	..	11,295 4 6	† Besides this amount Rupees 53-10-6 have been realized on account of interest.
52 13 1	527 12 4	4,029 11 0	..	4,029 11 0	
..	..	..	..	..	
1,005 9 6	1,005 9 6	8,715 14 4	..	8,715 14 4	
.. ..	..	..	..	..	
1 8 0	1 8 0	4,426 15 8	..	4,426 15 8	
1,369 8 11	1,938 5 3	4,046 14 2	..	4,046 14 2	
591 0 8	1,470 10 2	9,106 3 2	306 8 0	8,799 11 2	
2,452 4 7	2,471 2 7	11,318 8 2	..	11,318 8 2	
49 1 6	49 1 6	2,641 12 0	..	2,641 12 0	
140 5 4	411 5 4	8,668 9 10	..	8,668 9 10	
..	150 0 0	18,031 14 8¾	..	18,031 14 8¾	
..	..	..	..	..	
..	..	..	..	..	
..	..	..	..	..	
..	..	..	..	..	
..	..	..	..	..	
..	..	507 8 0	..	507 8 0	
..	..	..	..	..	
..	..	..	..	..	
..	..	..	..	..	
..	..	..	..	..	
1,603 12 1	1,603 12 1	8,474 13 0	..	8,474 13 0	
200 2 3	429 4 7	5,842 10 6	753 2 8	5,089 7 10	
399 3 3	1,242 0 10	5,176 11 11	824 1 11	4,352 10 0	
..	..	..	..	..	
..	..	..	..	..	
..	..	..	..	..	
15,036 1 1½	29,810 13 10	3,11,435 2 7¾	6,870 15 6	3,04,564 3 1¾	
Deduct realized in excess	270 2 4				
	29,540 11 6				

E. A. SAMUELLS,
Superintendent and Remembrancer of Legal Affairs.

No. 3.—STATEMENT *of Sums advanced by the Honourable East India Company in Cases appealed to Her Majesty's Privy Council.*

No.	Date of Decree of Privy Council.	Date of Sudder Dewanny Adawlut's order for execution.	Names of Parties.	Amount advanced by the Honourable Company, the same being made payable by the Appellants and Respondents respectively. £ s. d.	Amount advanced by the Honourable Company, the same being made payable by the Appellants and Respondents respectively. Rs. A. P.	Realized. Rs. A. P.	Balance. Rs. A. P.	Remarks.
1	9th Dec., 1833	20th June, 1836	Banoo Bebee Chowdrine, Appellant,	89 6 2	898 1 3	898 1 3	..	
			versus					
			Imam Bux Gazee Chowdry, Respondent	64 14 4	647 2 7	647 2	..	
2	4th Jan., 1834	21st June, 1837	G. J. Gordon, Executor of Futteahyal Khan, Appellant,	..	..	..	..	
			versus					
			Khaja Aboo Mahomed Khan, &c., Respondents	1,156 0 0	9,254 0 0	9,254 0 0	..	
3	24th Ditto	27th Nov., 1836	Gopee Mohun Tagore, &c., Appellants,	668 10 0	6,685 0 0	6,685 0 0	..	
			versus					
			Raja Radhakant, Respondent	536 12 10	5,366 6 4	5,366 6 4	..	
4	16th April, 1834	..	Suttro Gun Sutputty, Appellant,	944 19 4	9,450 1 6	113 0 0	9,337 1 6	The balance due from the Appellant has been stationary since 1838, in consequence of there being no property found in the Zillah belonging to him; but there are 5000 Rs. held in deposit in the Treasury of the Sudder Court, being the amount origiually lodged as security on the institution of the suit, which sum can now be transferred to payment of the balance, and for the residue the Collector of the District should be addressed to enquire and report as to the existence or otherwise of the property of the Appellant, and on the receipt of such report, application should be made to restore the suit for re-issuing the execution of the decree. In regard to the balance due from the Respondent, a similar measure is necessary to ascertain his property.
			versus					
			Sabitra Daye, Respondent	868 8 0	8,684 0 0	4 10 0	8,679 6 0	

5	7th Feb., 1835	28th Nov., 1836	Raja Greeschunder Roy, Appellant, *versus* Sumboo Chunder Roy, Respondent	400 13 11 354 12 1	4,006 15 3 3,546 13 1	4,006 15 3 3,546 13 1	.. ..	
6	Ditto	..	Sumboo Chunder Chowdry, &c., Appellants, *versus* Narain Dobey, &c., Respondents	772 14 2 698 5 8	7,727 1 3 6,972 13 3	7,727 1 3 6,972 13 3	.. ..	
7	29th June, 1836	21st June, 1837	Joynarain Roy, Appellant, ... *versus* Rammanick Moody, Respondent	1,751 16 6 ..	19,393 6 2 ..	19,393 6 2 ..	.. ..	
8	Ditto.....	Ditto.....	Harolal Roy, Appellant,..... *versus* Koomar Sing, Respondent....	.. 892 3 10	.. 9,825 14 6	.. 9,825 14 6	.. ..	
9	30th Nov., 1836	31st July, 1837	Raja Gopal Indronaraine Roy, Appellant, *versus* Raja Juggurnauth Gurgo, Respondent	962 8 4 169 7 2	9,966 3 4 1,753 12 10	9,966 3 4 1,753 12 10	.. ..	
10	22d Dec., 1836	..	Syed Shah Ausuddoolla, Appellant, *versus* Musst. Bebee Imamun, Respondent	1,643 0 9 1,158 17 5	16,431 0 0 14,582 0 0	25 0 0 ..	16,406 0 0 14,582 0 0	In regard to the balance due from the Appellant, it is under the same difficulty as that of No. 4, and a similar report from the Collector is necessary previous to re-issuing execution. And in regard to the balance due from the Respondent, it appears from the report of the Record-keeper of the District of Patna, that in his Division the Respondent has some property, and in consequence application has recently been made for re-issuing the execution.
11	1st March, 1837	31st July, 1837	Doomun Sing and others, Appellants, *versus* Kasheeram and Toolseeram, Respondents	1,299 19 3 201 1 1	13,865 9 5 2,144 8 3	13,865 9 5 2,144 8 3	.. ..	
12	Ditto.....	..	Kristchunder Rae, &c., Appellants, *versus* Mohonee Mohun Tagore, &c., Respondents	1,425 7 4 ..	.. ..	.. ..	.. ..	Execution suspended under orders of Government since 1838.

No. 3.—Continued.—STATEMENT *of Sums advanced by the Honourable East India Company in Cases appealed to Her Majesty's Privy Council.*

No.	Date of Decree of Privy Council.	Date of Sudder Dewanny Adawlut's orders for execution.	Names of Parties.	Amount advanced by the Honourable Company, the same being made payable by the Appellants and Respondents respectively.		Realized.	Balance.	Remarks.
				£ s. d.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
13	12th July, 1837	23rd July, 1839	Meer Golam Russool, &c., Appellants,	2,140 10 8	26,459 7 4	25,398 10 6	1,060 12 10	The balance due from the Appellant is being recovered by instalments, under sanction of Government. The demand against the Respondent is not recovered in consequence of his property not being traceable.
			versus					
			Musst. Mungloo Meer, &c., Respondents	240 8 4	2,972 13 10	..	2,972 13 10	
14	11th Dec., 1837	23rd Feb., 1839	Raja Deendyal Sing, &c., Appellants	3,106 5 3	31,062 0 0	26,767 11 10	4,294 4 2	The balance due from the Appellant is being recovered by instalments, under sanction of Government.
			versus					
			Raja Beer Kishen Sing, &c., Respondents	741 8 1	7,444 8 0	7,444 8 0	..	
15	3rd Jan., 1840	2nd Feb., 1841	Muttyloll Oopadhia, Appellant	2,873 3 4	30,488 13 9	..	30,488 13 9	Neither the Appellant nor his heirs are reported to be forthcoming.
			versus					
			Jugunnath Gargo, Respondent	2,296 4 2	24,268 14 1	24,368 14 1	..	
16	13th July, 1840	24th Dec., 1841	Keerut Sing, Appellant,.....	2,996 4 2	31,630 12 8	..	31,630 12 8	The Appellant has no property. The demand against the Respondent is being recovered by instalments under sanction of Government.
			versus					
			Kolahul Sing, Respondent	596 17 6	6,300 5 5	3,358 3 0	2,942 2 5	
17	25th Feb., 1841	24th Dec., 1841	Jewun Doss Saho, Appellant,	1,107 2 11	11,840 6 0	11,840 6 0	..	
			versus					
			Shaikh Kubeerooddeen Ahmud. Respondent	981 14 1	10,498 12 10	10,498 12 10	..	
18	25th Ditto	24th Ditto	Baboo Greedharee Sing, Appellant,	3,316 9 2	35,472 6 1	8,759 8 0	26,712 14 1	The amount due from the Appellant is in course of recovery, that due from the Respondent is also being recovered by instalments under sanction of Government.
			versus					
			Kolahul Sing, Respondent....	761 9 4	8,143 4 5	..	8,143 4 5	
19	4th June, 1841	14th Jan., 1843	Ramcoomar Burmah, Appellant,	760 17 0	8,811 15 2	*10,030 5 9	..	* Inclusive of interest.
			versus					
			Ranee Indranee, Respondent..	715 3 4	8,282 14 9	8,282 14 9	..	
20	Ditto.....	Ditto.....	Ranee Indranee, Appellant, ..	322 17 6	3,856 3 5	3,856 3 5	..	
			versus					
			Ramcoomar Burmo, Respondent	302 4 0	3,500 3 0	3,500 3 0	..	

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No. 4.—REGISTER *of Sums advanced by the Honourable East India*

No	Zillah.	Date of Decree of Privy Council.	Date of Sudder Dewanny Adawlut's order for Execution.	Names of Parties.	Amount advanced by the Honourable Company, the same being made payable by the Appellants and Respondents respectively.		Realized in preceding Years.
					£ s. d.	Rs A. P.	Rs A. P.
4	Midnapore..	April 16th, 1834	..	Suttro Ghun Sutputty, Appellant	944 19 4	9,450 1 6	113 0 0
				versus			
				Sabitra Daye, Respondent	868 8 0	8,684 0 0	4 10 0
10	Bhaugulpore	Dec. 22nd, 1836	..	Syed Shah Ausudoolla, Appellant	1,643 0 9	16,431 0 0	25 0 0
				versus			
				Musst. Bebee Imamun, Respondent	1,458 17 5	14,582 0 0	..
13	Patna	July 12th, 1837	Feb. 23rd, 1839	Meer Golam Russool and others, Appellants	2,140 10 8	26,459 7 4	25,398 10 6
				versus			
				Musst. Mungloo Meer and others, Respondents	240 8 4	2,972 13 10	..
14	Sarun	Dec. 11th, 1837	Feb. 23rd, 1839	Raja Deendyal Sing, &c., Appellants	3,106 5 3	31,062 0 0	26,767 11 10
				versus			
				Raja Beer Kishen Sing, &c., Respondents	744 8 1	7,444 8 0	7,444 8 0
15	Midnapore..	Jan. 3rd, 1840	Feb 2nd 1841	Mutty Lall Oopadhya, Appellant	2,873 3 4	30,488 13 9	..
				versus			
				Juggornath Gurgo, Respondent	2,296 4 2	24,368 14 1	24,368 14 1
16	Behar	July 13th, 1840	Dec. 24th, 1841	Keerut Sing, Appellant	2,996 4 2	31,630 12 8	..
				versus			
				Kolahul Sing, Respondent	596 17 6	6,300 5 5	3,358 3 0

Company in Cases appealed to Her Majesty's Privy Council.

Realized during the Official Year 1846-47.	Total Realized.	Balance outstanding on the 1st May, 1847.	Remarks.
Rs. A. P.	Rs. A. P	Rs. A. P.	
.. ..	113 0 0	9,337 1 6	There are two Mehals registered in the Midnapore Collector's Office, in the name of the Appellant, though stated in the Mofussil to be held by his brother, Bhoruttee Churn Sutputtee, but this it appears is only with a view of avoiding claims against the Estate of Appellant whose son is alive. Large properties also, formerly in the name of the Respondent, all appear to have been transferred to others, owing to Decrees passed in the Civil Courts, in cases with relatives of Respondent, which were probably collusive.
..	4 10 0	8,679 6 0	The Collector has, however, been requested to direct the Government Vakeel to afford his assistance to the Collectorate Nazir in ferreting out the fraudulent transfers of the property which have doubtless taken place.
..	25 0 0	16,406 0 0	A list of the property which Shah Enyat Hossein pledged for his father, Shah Ausudoolla, in 1818, together with a list of the property pledged by Feka Sing, have been forwarded to the Collector of Bhaugulpore, with instructions to make renewed inquiries into this matter, and to attach the property of Feka Sing, should it be found that it did not pass out of his hands by means of a Revenue Sale.
..	..	14,582 0 0	In regard to the recovery of the balance due from the Respondent, on an application made by the Government Pleader, the Judge of Bhaugulpore sent a Roobacarry to the Judge of Patna, requesting him to direct the Collector of that District to sell to Ma. Telwa, &c., the property of the Respondent. The Estate was accordingly advertised for sale by orders of the Judge of Patna; but under a petition from one Ilyatoonessa, the same Judge, in his Roobacarry, dated the 20th September, 1845, prohibited the sale, and directed the Government Pleader to petition him, if he had any objections to urge against the claim of Ilyatoonessa. A petition was accordingly drawn up and sent to the Government Pleader of Patna, on the 15th November, 1845.
2,316 9 1	*27,715 3 7	..	* Inclusive of interest.
..	..	2,972 13 10	Certain lands are to be sold in Zillah Tirhoot, in satisfaction of a Decree held by Musst. Mungloo, from which it is probable the balance due from her may be speedily realized.
..	26,767 11 10	4,294 4 2	The balance due from the Appellant is being recovered by instalments under sanction of Government.
..	7,444 8 0	..	
..	..	30,488 13 9	The Collector of Midnapore states that there is no property to be found of the Appellant, as to what security was taken in the appeals and what property now liable, cannot be ascertained accurately except by examination of the Bonds or copies of them. Vide Collector's Letter, No. 121, dated 21st June, 1847. The Government Pleader has been requested to obtain copies of the Bonds from the Records of the Sudder Court for transmission to the Collector.
..	24,368 14 1	..	
..	..	31,630 12 8	The Nazir of the Behar Collectorate reports the Appellant, Keerut Sing, to have died and left no property. The balance due from the Respondent is being recovered by instalments under sanction of Government.
..	3,358 3 0	2,942 2 5	

No. 4.—Continued.—REGISTER *of Sums advanced by the Honourable*

No	Zillah.	Date of Decree of Privy Council.	Date of Sudder Dewanny Adawlut's order for Execution.	Names of Parties.	Amount advanced by the Honourable Company, the same being made payable by the Appellants and Respondents respectively.			Realized in preceding Years.		
					£ s. d.	Rs A. P.		Rs.	A.	P.
18	Patna	Feb. 25th, 1841	Dec. 24th, 1841	Baboo Gredharee Sing, Appellant	3,316 9 2	35,472 6 1		..		
				versus						
				Kolahul Sing, Respondent	761 9 4	8,143 4 5		8,759	0	8
21	Patna	Aug. 11th, 1841	Mar. 30th, 1843	Sheick Imdad Ally and others, Appellants						
				versus						
				Kootbee Begum, Respondent						
				Awarded against all the Appellants	931 15 1	9,053 5 3		9,053	5	3
				Ditto ditto except Ahmudoolla	351 8 8	3,414 8 4		3,414	8	4
				Awarded against Ahmudoolla alone	124 12 8	1,210 10 11		1,210	10	11
				Ditte Kootbee Begum	1,182 11 11	11,526 1 8		7,750	0	0
23	Beerbhoom	Dec. 13th, 1843	Nov. 28th, 1844	Dhurm Doss Pauray, Appellant	1,896 14 9	31,704 2 9		5,000	0	0
				versus						
				Shama Soondry Deba, Respondent	1,746 5 1	6,309 10 5		..		
24	Beerbhoom	June 19th, 1844	April 28th, 1845	Maha Raja Tej Chunder Bahadore, Appellant	2,566 3 8	30,133 2 6		30,238	2	6
				versus						
				Sreekant Ghose, Respondent	109 14 3	1,288 2 4		..		
25	Mymunsing	Sept. 3rd, 1844	May 26th, 1846	Sumsunnissa Khanum, Appellant	3,070 12 2	26,624 15 0		..		
				versus						
				Roy Jaun Khanum, Respondent	427 4 6	4,968 12 4		5,041	14	9
26	Moonghyr ..	May 13th, 1845	May 30th, 1846	Chowdry Debeepershad and others, Appellants	902 13 6	6,660 1 0		..		
				versus						
				Chowdry Dowlut Sing, and others, Respondents	170 4 6	1,953 15 8		..		
12	..	1st March, 1837	..	Kristchunder Rae, &c., Appellants	1,425 7 4	..		..		
				versus						
				Mohonee Mohun Tagore, &c., Respondents	..	..		..		
				Total.....	38,892 13 7	3,88,337 13 3		1,57,948	3	10

FORT WILLIAM,
The 3rd October, 1847.

East India Company in Cases appealed to Her Majesty's Privy Council.

Realized during the Official Year 1846-47.	Total Realized.	Balance outstanding on the 1st May, 1847.	Remarks.
Rs. A. P.	Rs. A P.	Rs. A. P.	
15,000 0 0	15,000 0 9	20,472 5 4	The balance due from the Appellant is being recovered by annual instalments of 5,000 rupees.
..	*8,759 0 8	..	* Inclusive of interest.
..	9,053 5 3	..	The Security Guseytee Begum has pointed out property belonging to the Respondents, situated in Zillah Paniput, which the Court of Patna has directed the Court of Paniput to bring to sale under its Proceedings, dated 27th March, 1847.
..	3,414 8 4	..	
..	1,210 10 11	..	
..	7,750 0 0	3,776 1 8	
24,763 2 0	29,763 2 0	4,940 9 1	
6,667 5 0	*6,667 5 0	..	* Inclusive of interest.
..	30,238 2 6	..	The Collector of Beerbhoom has instructed the Government Pleader to petition the Judge for the sale of the Respondent's property, and he has also written to the Deputy Magistrate at Cutwa, to direct the village authorities to take charge of the property attached.
..	..	1,288 2 4	
26,624 15 0	26,624 15 0	..	
..	*5,041 14 9	..	* Inclusive of interest.
3,347 8 0	3,347 8 0	3,312 9 0	Necessary measures have been taken for recovering this balance through the Government Pleader at Bhaugulpore.
1,953 15 8	1,953 15 8	..	
..	..	..	Remitted under orders of Government, No. 1465, dated 7th July, 1847.
..	..	..	
80,673 7 6	2,38,621 11 4	1,55,123 1 9	

E. A. SAMUELLS,
Superintendent and Remembrancer of Legal Affairs.

No. 5.—*Abstract of Schedules A, B, and C, for the years* 1845-6 *and* 1846-7.

	Original Suits.							Appeals.								Remarks.
	Number pending on 30th April of each year.	Number instituted from 1st May to 30th April of following year.	Total.	Decided within the year.			Balance pending at the end of the year.	Number pending on the 30th April of each year.	Number instituted from 1st May to 30th April of following year.	Total.	Decided within the year.			Balance pending at the end of the year.	Number of cases in which Government lost twice.	
				In favour of Government.	Against Government.	Total.					In favour of Government.	Against Government.	Total.			
1845-6																
A	....	....	552	189	48	237	315	....	....	118	45	12	57	61	8	The amount pending under A, in the year, was 1,037,132 rupees.
B	....	....	222	83	18	101	121	....	....	76	34	5	39	37	4	The amount pending under B, in the year, was 3,286,227 rupees.
C	....	....	148	112	15	127	21	....	....	40	7	9	16	24	8	The amount pending under C, in the year, was 359,051 rupees.
1846-7																
A	309	298	607	174	51	225	382	58	42	100	23	8	31	69	4	The amount pending under A, in this year, was 1,127,064 rupees.
B	121	62	183	72	14	86	97	33	24	57	23	1	24	33	1	The amount pending in B, in this year, was 785,535 rupees.
C	21	64	85	34	5	39	46	11	12	23	9	4	13	10	4	The amount pending under C, in this year, was 284,165 rupees.

A are Suits instituted to establish some substantial Right. Under A the suits have ten denominations.
B are Suits instituted to obtain redress for Official Acts. Under B the suits have eight denominations.
C are Suits in which Government is Plantiff. Under C the suits have six denominations.

No. 6.—ABSTRACT STATEMENT *of Decrees passed in favour of Government in the years* 1845-6 *and* 1846-7.

		Total Number and Value of Cases decreed in favour of Government up to 30th April.		Remaining unrealized on 1st May.		Pending on the file on 1st May.	
		No.	Amount.	No.	Amount.	No.	Amount.
			Rupees.		Rupees.		Rupees.
Revenue Department,	1845-6....	302	249,885	150	151,906	110	126,953
Do. do.	1846-7....	,,	265,996	,,	192,756	,,	191,631
Customs, Salt, & Opium,	1845-6....	92	555,336	88	471,727	70	347,921
Salt Department,	1846-7....	,,	596,662	,,	498,588	,,	498,571
Opium Department,	1846-7....	,,	16,607	,,	12,377	,,	12,377
Abkaree, or Liquor Sale Department	1846-7....	,,	382	,,	382	,,	382

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Syk/Ana

From the JOURNAL OF THE STATISTICAL SOCIETY OF LONDON.
MARCH, 1868.

ANALYSIS *of the* REPORT *upon the* STATE *of the* EMPIRE *of* FRANCE, *presented to the* SENATE *and* LEGISLATIVE BODY, *February*, 1867.

By COLONEL W. H. SYKES, M.P., F.R.S.

[EXPOSÉ *de la* SITUATION *de* L'EMPIRE, *presenté au* SÉNAT *et au* CORPS LÉGISLATIVE, *Février*, 1867.]

[Read before Section F, British Association, at Dundee, September, 1867.]

State of the Interior.—The report opens with an assurance that notwithstanding the effects of the American war, the manufacturing industries bore patiently and without much suffering the occasional suspension of labour.

In 1865 a law permitted the union of workmen for the consideration of their commercial and industrial interests, provided politics were rigidly excluded; and the results in 1866 showed that the emperor's liberal views had acted favourably.

Inundations.—There were inundations in twenty-six departments of France during 1866, and 3,777,918 frs. were distributed in aid of the sufferers.

Municipal Elections.—Since the general elections in 1865, at the termination of the quinquennial period, 4,351 vacancies have occurred by deaths or resignations, amongst the mayors and their deputies; and the Government in fulfilment of a pledge, had, as far as possible, filled them up from members of the municipal councils, only 123 were appointed from other sources, fourteen mayors being named by the emperor. Owing to certain regretable conflicts which took place in the last elections, it was necessary to dissolve twenty-five municipal councils.

Five vacancies in the legislative body occurred during the past year, and the electoral colleges of departments were convoked and filled up the vacancies, except the College of Vervins.

Public Safety.—In the cantonal police reductions are being made with a view to economy, and they will be continued as far as compatible with serious interests.

Printing and Libraries have remained nearly stationary, but it would appear that the number and cheapness of journals have interfered with the production of books; nevertheless in some departments new libraries have been opened; but the illustrated papers, lithographs, photographs, and designs have increased to an impor-

tant extent, rising to thirty-five millions of impressions, and in the interests of public morality it has been necessary to look well after them.

Press.—The number of political journals on the 1st January, 1866, was 330, of which 63 were printed in Paris, and 267 in the departments. On the 1st January, 1867, the number was 336, of which number 64 were printed in Paris, and 272 in the departments. On the 1st January, 1866, the new political papers were 1,307, of which 703 were printed in Paris, and 604 in the departments. On the 1st January, 1867, the number was 1,435, *i.e.*, 710 for Paris and 725 for the departments. In 1866 the Government authorised the establishment of six political journals, one in Paris and five in the provinces.

In 1866 sixteen "warnings" were given, seven in Paris and nine in the provinces, ending in the suppression of one weekly paper. In the provinces no weekly paper had been suspended or suppressed. During the same period there had been thirty-two judicial condemnations. The colporteurs had presented 1,578 works to be allowed to circulate, of which 1,423 were sanctioned and 155 interdicted.

Population.—Notwithstanding epidemics, which prevailed very generally in France, the population has been gradually increasing during the quinquennial period; in 1866 the census gave 38,067,094 souls, exclusive of the troops of the army and navy abroad; in 1861 the number was 37,386,161 (rectified by the decree of 17th January, 1863), the increase therefore was 680,933. In fifty-eight departments there was an augmentation, and in thirty-one a diminution, more or less. The disposition in the rural population to become urban is not marked.

Benevolent Establishments. — These establishments are placed under the patronage of the empress by the decree of 8th August, 1865, and the Minister of the Interior has just published an account of the origin, organisation, receipts and disbursements of all these institutions. The hospital for the blind has granted this year 200 new pensions of 100 frs. each to blind at their houses. The total number of blind pensioners out of doors is 1,400, besides 300 in the hospital.

Asylums for Convalescents.—In 1866 in the establishment at Vesinet, 4,844 females have been received, and at the establishment at Vincennes, 10,489 workmen. The empress is also now opening a similar asylum for convalescent workmen at Lyons.

Deaf and Dumb.—The deaf and dumb institution at Paris has long been celebrated, and one of its objects is, by means of lectures, to extend a knowledge of the best means of instruction, and gentlemen, whether Frenchmen or foreigners, are invited to undertake

the office. The imperial establishments at Bordeaux and Chambery are flourishing. Besides the imperial schools, there are fifty-one public and private deaf and dumb schools, with 2,000 pupils.

Blind.—At the institutions for the blind, the cultivation of music has been carried to a remarkable extent, and many have acquired such proficiency as to obtain a lucrative livelihood by it.

Dispensaries. — Dispensaries for the gratuitous dispensing of medicines and advice to the poor, exist in forty-three departments. The cost in 1866 was 1,156,975 frs., made up of Government, departmental, and communal subventions and private subscriptions; 766,037 poor were upon the lists, and 613,617 visits were paid to 224,928 poor persons at their homes.

Lunatics.—The establishments are numerous, and at Lyons a new asylum for 1,200 of the afflicted has been built outside the walls.

Mendicity.—Is legally interdicted in fifty-six departments, but in the department of the Haute Vienne, a poorhouse has been raised by private subscription by way of trial.

Hospices and Hospitals are very numerous.

Mutual Aid Societies.—In December, 1866, they amounted to 5,581, and the number of members was 700,000, with a capital of 39,830,673 frs. The honorary members exceeded 100,000. With a view to encourage the formation of these institutions, the emperor gave a subvention of 64,350 frs., to assist in discharging preliminary expenses; and further to encourage zeal,—two crosses of the legion of honour, 28 gold medals, 89 silver medals, and 31 "honourable "mentions" were distributed amongst mutual aid societies.

Prisons and Penitentiary Establishments.—At Melun, Clairvaux, and Clermont prisons, called "maisons centrales," are established for criminals who have committed a first offence, and the youthful are separated from others; but it has been necessary to engage the young in agricultural labours, and about 16,000 are so occupied in different places. The places in which they are confined are called maisons centrales; but some of them have been discontinued on account of the disproportionate expense, and at the end of 1866 the number of criminals employed in agriculture had fallen to 15,300. In Corsica the houses of detentionwere capable of containing 19,335, but the actual number of occupants did not reach 4,000. In ten of these penitentiaries libraries have been established.

Culprit Children.—Arrangements are made for the detention and care of culprit children, and when it is thought right to liberate them they are placed with those farmers who will take them.

Provision is made for the solitary confinement in cells of about 17,800 individuals.

Telegraphic System.—The telegraphic system throughout the country is looked to with great solicitude, particularly its introduc-

tion into the cantons, in which above two hundred new stations have been opened in the last year, and the people eagerly take advantage of them. Hughes's system is adopted. On the 1st December, 1866, the total number of telegraphic offices was 2,091. In such offices as are not pressed by correspondence an officer of the State is dispensed with, and old soldiers, &c., their wives, widows, and children are placed, and in 1866 there were 128 offices in which such individuals were employed. In ten months of 1865 2,061,457 messages were sent, 1,748,871 in the interior, producing 3,458,704 frs. 15 cents, and 312,586 international, producing 2,410,578 frs. 60 cents; but for the corresponding period of 1866, the number of messages rose to 2,367,991; for the interior 1,972,571, producing 4,534,144 frs. 38 cents, and international 395,400, producing 1,937,742 frs. 26 cents, so that the increase in interior messages had been 12·78 per cent., and in the international 26·82 per cent.

Departmental Administration.—Previous to 18th July, 1866, the exercise of the central power in matters which were purely local occasioned great dissatisfaction, and it was deemed politic to moderate the use of this power, whence the law of the 18th July, which gave extended powers to the conseils-general, reserving to the Government, however, a power of veto in certain cases, and this veto was only exercised in three cases in 1866. Departmental roads, village communications (service vicinal), the lunatic poor, vagrant children, prisons, public works, to levy taxes and borrow money, are part of the functions of the conseils-general. The relaxation of the central power has gone to that extent, and very shortly a communal law will put the seal to the work of "decen-" tralization."

Departmental Records.—Seven volumes of catalogues of departmental records have been added in 1866, comprising an account of documents of the years 768, 819, 980, 1064, &c., &c., emanating from the kings Pepin-le-Bref, Charlemagne, Louis-le-Debonnaire, emperors, popes, &c.

Communal Administrations.—In 1865 the sum of 30,134,500 frs. was borrowed for communal purposes; but in 1866 the loans were reduced to 22,825,039 frs. The half of these loans was for a sinking fund, by which they would be extinguished in limited periods, and to pay interest, and the other half was devoted to building churches, lyceums, schools, markets, abattoirs, &c. Altogether there were thirty-four loans extant.

Roads.—Great attention is paid to country roads on account of agriculture, and to road communication generally. The funds available for roads generally in France, in 1865, amounted to 121,763,410 frs. 77 cents. The distribution of this sum is given in

detail in the report. On the 1st January, 1866, the number of great roads of communication were 3,900; of high or postal roads 6,896; and of country roads (chemins vicinaux) 203,583.

We next come to the report to the emperor of the financial condition of 1865, carried through 1866 to the rectification of the budget for 1867. The estimates for 1865 were thrown into confusion owing to the failure of the contributions from Mexico to the extent of eight millions of francs.

In 1866 the grave affairs in Germany threatening France being involved in war, occasioned great disquietudes; and though the rapid termination of the war in Germany prevented great expense, yet there was an increase of disbursements, happily met by an increase of revenue. Ten millions were allotted to the army, and the expenses of the army in wages exceeded by six millions the estimate; and the accounts of the Finance Minister showed an excess of 8,800,000 frs., chiefly for Mexican objects. The Minister of the Interior required 300,000 frs. to relieve the distressed workpeople of Lyons. The amount due from the Mexican Government of 7,500,000 frs. has not been paid. The money for the sale of pine woods in the sand-hill districts for two millions, and the sale of lands at Havre valued at 3,800,000, has been only partially realised, and there has been a short-coming to the extent of two millions in other branches of revenue; but, thanks to commercial development, there has been an increase of above 30 millions in the first eleven months of 1866, and the increase, as compared with 1865, will not be less than 45 millions. The receipts and disbursements, therefore, of 1866 would be in equilibrium. The freedom from commercial panic, the reasonable rate for money, and the active continuance of public works to the extent of 12 millions, have enabled public credit to be maintained with firmness.

The floating debt, however, which had been 792 millions in 1865, rose in 1866 to 888 millions; but the balance in the treasury had risen from 97 millions in 1865, to 215 millions in 1866.

Bank of France.—The inquiry into the affairs of the Bank of France resulted brilliantly, and satisfied the public that the monetary affairs of France were on a solid footing and offered every security, and that the monetary system of circulation was quite satisfactory.

Rectifications of the Budget of 1867.—The indirect receipts increased, in 1866, to the extent of 45 millions even under some unfavourable circumstances, and it is fair to calculate that the increase in 1867 will be 90 millions. The direct taxes will produce about 24 millions. The increase in the military department will be about 47 millions, and in the navy, chiefly by the increased price of provisions, giving new rifles to the troops and new cannon to the

navy, 22 millions will be required; for the Minister of Agriculture, 12 millions,—for the damage by the inundations, 8½ millions to augment the grant for public works, and 1½ millions for the Palace of the Universal Exposition. Other grants are made, for public instruction one million; the household of the emperor one million; and other grants; leaving a balance of increased revenue of 1½ millions, which are apportioned to various departments. Thus, the budget of 1867, in regard to receipts and disbursements, will be placed in equilibrium, and there will not be any necessity for new taxes or having recourse to borrowing.

Estimate for 1868.—The expenditure for 1868 is estimated at 1,548,665,223 frs. (61,946,601*l.*) Debt, public, and grants, 512,974,963; ministerial departments 790,505,636; collecting taxes and revenues 232,843,124; re-embursements, &c., &c., 12,341,400. The expenditure of 1867 is put at 1,523 millions; an increase, therefore, of 25 millions, of which nine millions is an increase of interest upon the floating debt. The rest is for departmental organisation, Algeria, for native troops, &c., &c.

The receipts are estimated at 1,669 millions (66,000,000*l.*), an excess of 52 millions over 1867.

Sinking Fund.—The sinking fund would remain as for 1866. No alterations are contemplated, nor extraordinary felling of timber.

Extraordinary Budget.—The deficit for extraordinaries, 121 millions, is to be met by one million of indemnity from Cochin China, 2½ millions extra produce of forests, 1½ million from re-coinage, 16,666,000 the third annuity from the Algerian society, and the total receipts will be 143 millions. The favourable state of the finances in 1868, M. Achilles Fould hopes, will enable the emperor to carry out his wishes for a diminution in taxation, augmentation for public instruction, and for works of public utility.

Administrative Organisation. The Public Debt.—The efforts made in 1862 for the more equable diffusion of the debt by increasing the number of fund holders in the departments, has been successful to the extent of 9½ per cent., and there are 44,000 persons holding six millions of dividends, now exclusively in the departments.

Public Servants.—The cost of salaries of public servants remains about the same as in 1865, in which year, however, the total exceeded that of former years.

Direct Taxes.—The direct taxes for 1866 exceeded those of 1865 by 7,258,000 frs. The details of this increase are given in the report.

Registration of Lands and Stamps.—Under these heads a satisfactory increase has taken place.

Forests.—The felling of timber has had favourable results this

year from 17 crown forests and 148 others, comprising 61,765 hectares. 16 of the crown forests have been disforested.

Great care has been taken in replanting and in re-turfing (regazonnés) the hill sides, and 50,000 hectares planted in 1864, rose to 61,000 hectares at the end of 1865.

Great efforts have been made to fix the sand hills (dunes) of the coast, and 54 kilometres of pallisades have been raised against the influx of sand. 88 kilometres of new forest roads have been constructed, and 133 kilometres improved.

Customs and Indirect Taxes.—Owing to the revised tariff, the development of the customs is very satisfactory, exceeding by four or five millions the estimate, and the total receipts exceeds 205 millions. The receipts from sugar exceed by eight or nine millions any former figure under the empire. Coffee, machinery, and mines have been constantly increasing since 1859. The tax on salt, wood, boats, public carriages, cards, &c., have increased about eight millions over former budgets; in fact the augmentation of indirect taxes is 15 to 16 millions above the receipts in 1865.

Government Manufactures.—The control of the manufacture of powder for commerce has been joined to that of tobacco, and the results are not yet known. The purchase of tobacco is increasing, and the cultivation of indigenous tobacco is extending itself. The consumption has produced five millions more than in 1865.

Post (Land).—The progressive increase in letters in 1866 produced an augmentation of 3,240,000 frs.; 100 new post offices have been established, and the daily delivery has been improved in 772 rural communes by a second delivery. In Paris a great extension has taken place.

Post (Sea).—Steamboats go twice a-month to the United States, and new lines have been established between France and Venezuela, Havana, Goree, Brazil, and Senegal. Arrangements have been made with Portugal, the States of the Pope, Greece, England, Belgium, Australia, India, &c., to facilitate intercommunication, and the telegraph has been connected with the post office.

Mint.—The gold coinage in 1866 amounted to 338 millions. The coinage in silver of $\frac{900}{1000}$ purity, has been restrained, but that of $\frac{835}{1000}$ amounts to 34,248,000 frs., and is intended to amount to 239 millions, which will be amply sufficient for all money changing.

Agriculture.—Under the head of agriculture the report is very lengthened and minute; quantities, process, extent of cultivation, importation, &c. Exportation of cattle had risen from 130,002 to 180,656; butter from 17,850,238 kilogrammes in 1865, to 22,687,318 kilogrammes in 1866; eggs 28,321,892 kilogrammes, to 32,119,582 kilogrammes; wines 2,585,810 hectolitres, to 3,038,713 in 1866. Thirty-one departments suffered from inundations; the public came

forward liberally, and the subscriptions, added to by Government, were distributed in the ratio of damage.

Cattle Disease.—While Great Britain, Holland, and Belgium were suffering from the cattle disease, Italy and Spain, touching France, were entirely exempt, and, thanks to the precautions taken in France, there were only one or two trifling inroads, which in fact left the agricultural districts free—and they remain so.

Veterinary Schools.—Great attention is paid to veterinary schools.

Industry.—The industry of the country had been but slightly affected by the state of political affairs. In cotton manufactures 96,475,070 kilogrammes had been imported in the first ten months of 1866 as compared with the first ten months of 1865 of 48,978,306 kilogrammes; and woollen manufactures were satisfactory, notwithstanding the mild winter of 1865-66.

Flax.—Two crops of flax had been short.

Machinery sent to Newcastle.—The manufacture of metals had been active. In machinery the phenomenon had appeared of the export of machinery to Newcastle.

General Results.

1866.		1865.	
Imports (10 months)	2,486,000,000	Imports.....	2,184,000,000
Exports „	2,822,000,000	Exports...	2,483,000,000
Excess in 1866 over 1865	641,000,000.		

Entries—	Tonnage.	*Exits*—	Tonnage.
1865	4,200,000	1865 (French 1,354,000) ...	2,943,000
'66 (French 1,720,000)....	4,614,000	'66 („ 1,693,000)....	3,512,000
Increase 414,000 tons, of which 25,000 tons French.		Increase 569,000 tons, French 339,000.	

Free Trade.—A review of commerce since the introduction of free trade, in 1860, shows that the measure has been good and useful. From England the importations have risen in ten months of 1865 from 413,570,000 frs., to 501,570,000 frs. in 1866.

Silk Manufactures have greatly improved in 1866.

Exports to England.—In 1865 the value was 680,428,000 frs., in 1866 it was 889,915,000. 105,586 cattle were sent in 1865, and 158,678 in 1866. Wines had increased 10 millions, and brandy 20 millions. Grain had exceeded 60 millions. There were 28,069,000 eggs exported in 1865, and 30,060,000 in 1866. Silks 38,000,000 frs. woollens 15,000,000, and merinos 13,000,000, *plus* the value in 1866.

Exports to other Countries.—Then follow the exports and imports to other countries. The ameliorations in the laws to facilitate commercial intercourse, to prevent the introduction of contagious diseases, &c., are given in great detail, and the Government pub-

lished a new edition of the "Codex Medicamenteux Pharmacopée "Française," the two former editions having been published in 1816 and 1837. This matter in England would have been a private speculation.

The classification of manufactures has eliminated one hundred names, and lowered to an inferior class above eighty.

Weights and Measures.—The law of the 4th July, 1837, established the metric-decimal system of weights and measures, and in 1839 standards of verification were provided for every superintending office, which standards are to be verified every tenth year.

Co-operative Bodies.—At the suggestion of the emperor, a society (anonyme) has been organised to give moral and pecuniary support to co-operative labour associations. To the society of (fisseurs) silk weavers of Lyons, the emperor has aided its foundation with 300,000 frs.

Conservatoire des Artes.—Great aid is given to the Conservatoire des Artes et Metiers and the Imperial School of Arts, by adding to the buildings and augmenting the collections. In short, the emperor is shown as making himself popular with the working classes.

Imperial Roads and Bridges.—Large grants have been made to complete imperial roads, and to build, restore, and repair bridges connected with them.

Internal Navigation.—The internal navigation by rivers is 9,600 kilometres, and by canals 5,050; but deducting the rivers and canals with the navigations occasionally interrupted, the permanent navigation extends by rivers 6,900 kilometres, and by canals 4,856, total 11,740. The several rivers and canals are named in the report.

Mouths of the Rhone.—To enter the Rhone it has been necessary to canalize one of its mouths for 3,600 metres. Ten millions of francs had been allotted for internal navigation. Detailed accounts are given of the improvement of the ports.

Irrigation.—Irrigation from canals has made great progress in 1866.

Railways.—The development of railways up to the 31st December, 1865, was 21,033 kilometres of concessions, including 613 kilometres granted upon an eventual title. Matters remain much the same, as two concessions only have been granted in 1866, one of 3 kilometres and one of 14 kilometres. The length open on the 31st December, 1865, was 13,562 kilometres, and in 1866 there were added 944 kilometres; remaining to complete 6,544 kilometres.

Cost.—The expenditure to 31st Dec., 1866, was 6,173,195,000 frs., and to be expended to 1st January, 1867, 1,806,805,000. Total 7,980,000,000 frs. (319,200,000*l.*).

Cost per Kilometre.—The average cost was 379,097 frs. per kilometre (15,164*l.*). The aid given by the Government consisted either

in loans to be repaid, or by work executed by the Government, and in subventions, of which one class is payable in capital, and the other has been converted into a number of annuities equal to the number of years to run to the end of each concession.

Government Advances.—The sums expended by the State up to 31st December, 1866, after deducting repayments, amounted to 978,573,377 frs. The subventions embrace one to the Italian Government.

The subventions payable in annuities amount to a capital of 396,169,863 frs., for which the interest of $4\frac{1}{2}$ per cent. and sinking fund amount annually to 18,272,500 frs.

The subventions to the companies represent a capital of 144,483,126 frs., representing 68,638 frs. per kilometre, which will make the cost per kilometre 447,735 frs.

Guarantees.—Independently of the subventions, the companies of the north, the east, of Orleans, of the west, of Lyons, of the Mediterranean, and of the centre, are guaranteed an interest of 4 per cent., with a sinking fund of the same amount. The company of Victor Emmanuel has $4\frac{1}{2}$ per cent.

Amount Guaranteed.—The guaranteed interest in 1866 will not exceed 31 millions frs.

Local Lines.—216 kilometres of local lines have small subventions; the lines originate in the departmental conseils-general.

Communication. Passengers and Guard.—An electric system was invented and practised for communication between passengers and guard, but it failed from the vibration of the train. An acoustic system promises better.

Abatement of Smoke.—Engines are compelled by law to burn their smoke.

Number of Travellers.—Over 13,228 kilometres 84,025,516 persons have been carried 40 kilometres, and 3,361,000,000 have passed over 1 kilometre. 34,019,436 tons of merchandise have been carried by the slow trains.

Receipts.—The gross receipts for travellers have been 184,215,213 frs.; goods by the trains 314,609,184 frs.; miscellaneous receipts 80,032,474 frs. Total 578,865,871 frs.

Subscription Tickets.—Some of the railways allow workmen weekly tickets at reduced prices. The Company du Midi (central) allows the workmen to send their children to school by monthly tickets.

Time.—Slow trains were only obliged to travel 125 kilometres in the twenty-four hours; they are now obliged to travel 200 kilometres.

Inundations.—In September, 1866, parts of France were desolated by serious inundations, which equalled in extent those of 1865.

Twelve millions of francs were required to repair the damage, and various provisions were made to protect the country for the future.

Mineral Industry.—In 1865 the coal measures supplied coal to the extent of 110 millions of metrical quintals, and in 1866 there were 120 millions of quintals, and from 1857 to 1866 the production has risen from 79 millions to 120 millions of quintals; and the price, which in 1857 was 1 fr. 26 cents per quintal, is to-day above that rate.

Iron.—In 1866, iron, whether for rolling or casting, to the extent of 2,130,000 quintals, by wood fusion, were produced, to the value of 32,065,000 frs., and 899,000 quintals by coke or charcoal, to the extent of 91,889,000 frs.; the total value of iron produce 135,316,000 frs.

Mines.—Concessions have been granted in 1866, four for combustibles in the Higher Alps, and Lot and Var; four for iron mines in the departments of the Moselle, Meurthe, du Nord, and the Saone and Loire; also two concessions for lead mines, silver, copper, and other metals in the High Alps and Savoy.

One concession for a bituminous mine in the "Ain;" one of manganese in the Haute Garonne; one of antimony in the Haute Loire. In all thirteen concessions have been granted, for a superficial area of 6,208 hectares.

Total Concessions.—The previous concessions amounted to 1,184, viz.:—

Coal	598
Iron	249
Other minerals	337

And in January, 1867, there were 195 applications for further concessions.

Fine Arts.—The French Government systematically encourage the fine arts, and numerous proofs are given of acquisitions for the different museums—paintings, sculpture, &c., either ordered by the Government or acquired by purchase.

Historical Monuments.—Great care is taken in the restoration and preservation of historical monuments, such as feudal castles, churches, tombs, &c., &c.

Civil Buildings.—All the public buildings, the ministries, palaces, libraries, &c., are enumerated in the report, and the extensions or repairs done to each are stated: Sevrès china manufactory, conservatory of arts, a new opera house, which will be finished with 1867.

Archives.—The records are well preserved.

Fossils.—A museum of ancient fossils has been opened.

Correspondence of Napoleon I.—The commission appointed to superintend the publication of the correspondence of Napoleon I, has put to press the twentieth volume.

Theatres.—Many additional theatres have been built in Paris and the country; some of them owe their success to writings, not only frivolous, but to questionable tastes. The Government opposes itself as much as possible to these unsatisfactory manifestations. Owing to a subvention of 100,000 frs., the Italian theatre has emerged from its difficulties.

Studs.—783 stallions of pure and half-blood were bought in 1865 at a cost of 476,400 frs., and in 1866 the number was 827, at a cost of 486,950 frs., adding 62, and 889 stallions were otherwise available for breeding; allowing 25 foals to each, there is an annual product of 50,000 thorough and half-bred horses.

Racecourses.—Racing has now entered into the manners and amusements of the French. In 1860 there were 63 hippodromes, with a budget of 862,700 frs., and in 1866 there were 117, with a budget of 1,961,760 frs. Of this—

	frs.
For plates	1,332,725
„ steeplechases, &c.	411,800
„ trotting matches	217,235

Of this—

The State contributed	510,900
„ emperor and empress	112,800
Societies	1,338,360

Civil Justice.—Lengthened statements are given in the report of the action of the several courts. There were very considerable arrears, but they were slightly lessened latterly.

Criminal Justice.—The general results are satisfactory as to a normal condition, and the statistics of crime for 1866 are about being published.

Extradition Treaty.—The extradition treaty with England amounted to a nullity until the English Parliament passed a bill relaxing the law with respect to documentary proofs against criminals. This bill has produced excellent results, and criminals can now be made amenable to the laws they have outraged.

Revision of the Criminal Process.—The Council of State has finished its labours in the preparation of a law for the revision of the existing criminal process.

Imperial Printing Department.—The printing is proceeding successfully, and its labours are increasing from year to year. It possesses all the "types" known in printing; it has invented a type which will be acceptable to lovers of books for its beauty, and to the poor for its cheapness.

Worship.—Arrangements have been made with the Pope for the reorganisation of public worship in Algiers, under the control of the Metropolitan of Algeria and the Bishops of Constantine and Oran.

Restorations.—Restorations have taken place in the cathedrals of Albi, Autun, Montpellier, Perigueux, and Rouen, and there has been partial reconstruction of the cathedrals of Cambrai, Clermont, Moulins, and Troyes.

New Cathedrals.—New cathedrals have been constructed at Gap and Marseilles, and the seminaries of Autun, Nantes, Rennes, Tarbes, and Tulle have been reconstructed.

Communes.—By legislative grants also a great number of communes have been aided in the reconstruction or repair of their churches and presbyteries.

Protestants and Jews.—Protestants and Jews have had their share in the grants.

Public Instruction.—In 1864 there were 36,692 communes provided with schools, but 818 communes had not complied with the conditions imposed upon them by law.

On the 1st January, 1866, there were 36,854 communes provided with schools, and 694 were without. Since 1864, therefore, 124 communes had provided themselves with schools.

Schools.—In 1864 the schools for boys, or for both sexes, were 38,386, and for girls 14,059.

On 1st January, 1866, there were 38,629 public schools for boys or mixed, and 14,721 for girls. The augmentation, therefore, being 905 schools.

Number of Scholars.—On the 1st January, 1864, there were 2,399,093 boys and girls in the public schools, and 1,004,837 girls, making a total of 3,413,830 scholars.

Public Schools.—On the 1st January, 1866, there were 2,424,454 boys and girls, and 1,053,888 girls, in all 3,478,342 scholars; the increase, therefore, in the public schools being 64,572 scholars of both sexes.

Private Schools.—Of private schools there were on the 1st January, 1864, boys' schools 3,108, and girls' schools 13,208, instructing in all 922,538 scholars.

The total of public and private schools being 68,761, and 4,336,868 scholars. On 1st January, 1866, the private schools were, boys' 3,289, girls' 13,057, scholars 964,079, making a total of 69,696 public and private schools, with 4,442,421 scholars, showing an augmentation of 935 schools and 106,053 scholars in two years.

The public asylums for infants, 1st January, 1864, were 2,335, and 973 private, receiving 383,856 infants of both sexes. On 1st January, 1866, the infants' schools were 2,484 public and 1,088 private, receiving 418,768 infants. The total number of establishments on 1st January, 1866, was 73,268, with 4,861,189 scholars.

Attendance.—In 1863 the attendance was 47·2 per cent.; in 1866 the attendance was 49·8 per cent.

Aid Given.—In 1865 780 communes asked for aid to establish schools, and obtained aid to the extent of 1,980,787 frs. In 1866 810 communes asked for aid, and obtained 2,155,985 frs. For infant asylums, 85 communes got aid, 144,200 frs., and in 1866 112 communes got aid, 112,954 frs. The law of September, 1863, authorised the grant of 300 frs. to a commune for school furniture, provided the commune raised a similar sum.

Pensions.—Pensions to schoolmasters have been raised from 44 frs. to 95 frs., and in 1866 to 103 frs. per annum; but it was necessary to increase these miserable pensions by a grant in 1866 of 40,000 frs. The total amount of 273,453 frs. was distributed amongst 4,311 retired schoolmasters, the mean aid being 63 frs. The formation of aid societies has been encouraged, and many shareholders give their dividend to the schoolmasters' fund.

Codes of Instruction.—Departments have to distribute to schoolmasters an approved code of instruction. The object is to develop a child's mind and not to load it with abstract formularies which imprison the intellect within obscure rules, which do not realise the object in view. But children's schools have not been the sole object of the care of the Government. It has favoured adult instruction in reading, writing, and arithmetic.

Adult Instruction.—In the preceding report of 1866, there were 20,000 schools; for the present report it can only be determined approximately, but the number far exceeds 20,000. 22,980 for adult men, and 1,706 for adult women, existed in 22,947 communes, and there were 30,222 instructors; 552,939 men, and 42,567 women attended instruction. 15,276 of these schools had gratuitous instruction; in the others a slight fee was paid, barely enough to cover fire and light; 4,150 of the instructors supplied the cost of fire and light, and many gave books to the adults. 1,551,225 frs. were the cost of these schools during 1866, which was obtained as follows:—

	frs.
Pupils	414,940
Communes	656,164
Conseils-general	72,667
Private donations	125,760
Teachers	90,999
By the Government	190,695
Total	1,551,225

The numbers are then given in the report of those who learnt reading, writing, and arithmetic, but many went beyond this. 22,340 learnt drawing; 56,059 went through a course of geometry and carpentering; 8,386 a course of physical science; 33,282 a course of applied arithmetic; and 13,950 singing. The moment

the harvest is over, the adults flock to these schools. So far from these schools being unpopular, no less than 3,794 additional have been opened in 1,502 communes. Prizes are given of medals and books.

Limit Hours. — At the recommendation of several conseils-general, teachers of public schools have been authorised to curtail the day's instruction by one hour, that they might *at night* instruct the adults. Much to the honour of the teachers, few have availed themselves of this privilege, but have continued to give the full four hours' daily instruction, and attend the night schools also.

Schoolmasters free from Conscription.—Schoolmasters permanently attached to the public schools are free from the conscription, but not the masters of free schools.

Normal Primary Schools. Age to Enter.—No pupil could enter before he was 18, but the effect was that the schools were almost without pupils, and the age was reduced to 16 years, which was successful.

Secondary Instruction embraces geometry, knowledge of books, ornamental drawing, and even living languages. Those who offer themselves for examination and obtain a certificate are examined twice a-year by voluntary examiners.

Inspection.—The inspection of the public primary schools was on a defective footing; it was directed by the law of 1850 that there should be an inspector for each arrondissement, but it was neglected, and eighty arrondissements were without an inspector at all, and it was impossible the other inspectors could visit, even once a-year, all the schools. To mitigate this, the inspectors-general of normal primary schools have extended their inspection as far as possible, and there has been a special inspection in regard to music.

Children in Factories.—There are not any Government inspectors of factories, but the conseils-general in many departments have organised a system of inspection. It does not seem that there is any half-time system for instruction.

Agricultural Instruction.—In all the normal primary schools agricultural knowledge is taught.

School Libraries.—In 1865 there were in all France only 4,833 school libraries. On the 1st January, 1866, the number was 7,789, an increase in one year of 2,956. The 7,789 libraries possessed 473,779 volumes. 77,870 volumes were distributed to 1,447 communes, which could not satisfy the demand. In 1865 there were lent to families 179,267 volumes; and in 1865-66 there were lent 450,962.

Secondary Instruction.—The imperial lycées and colleges furnish secondary instruction; and these were increased in 1864-65 by 1,179, and in 1866 by 1,812.

The desire for the degree of bachelor had got enfeebled, and students left without taking it; but the feeling has revived.

Lycées and Colleges.—The two great classes in the lycées are rhetoric and philosophy. The students in the lycées, which were 20,361 in 1853 are now 34,442.

Communal Colleges.—The progress in the communal colleges is not so satisfactory as in the lycées, there being only an increase of 225 students in the last year. The students in the lycées and colleges number 67,705, of which number 17,164 belong to special instruction.

The School of Cluny, &c.—The school of Cluny is provided with laboratories for chemistry, physics, natural history, and a large library. It has 100 students, 62 of whom are prizemen from the departments, and 20 are Government prizemen. It is of high distinction for a professional education. At Mont de Marsen, by order of the emperor, a lycée for special instruction has been reorganised. As a classical school it languished, and could scarcely get students; but on the footing of Cluny, room has not been found for the students, and there are now 237. The system of special instruction is fully organised. Gymnastics are generally encouraged, and to enable them to be carried on profitably the time for instruction for the classes is diminished.

Statistics of Progress.—In closing the report upon secondary instruction, it is stated that the statistics of progress since 1843 will speedily be published.

Superior Instruction. The College Imperial of France.—The number of chairs has remained unaltered, but a supplemental course on the history of political economy has been added.

The Museum.—The inspector reports upon the deplorable insufficiency of the resources of the museum, and it will lose its high character. In 1865 the museum acquired by exchanges or acquisitions 31,105 scientific objects and 3,259 living plants. During that time, notwithstanding loans to illustrate lectures, the museum has distributed to public establishments 5,104 scientific objects, and 89,999 living plants. It is, therefore, not activity that is wanting, but resources to arrange the collections and make purchases. An aërolite was presented to the museum by Marshal Bazaen, of such dimensions that it was equivalent to a gift of 15,000 frs.

Imperial School of Oriental Languages.—The object of this school is to qualify for diplomacy and commercial intercourse. To other Oriental languages Japanese and Thibetan have been added, and an elementary course of Mongol, Annaniteese, and Cochin Chinese, and students are invited generally to an application to the Semetic languages.

Imperial School of Charts.—The school is progressing satisfactorily.

French School of Athens, for the study of ancient and modern Greek, and several valuable publications have emanated from it in the past year.

Faculties and Schools for Superior Teaching.—The reputation of these schools is very high; nevertheless, in some of them the means of illustration are limited in the want of complete laboratories and instruments; an addition, however, has been made of 160 students in 1866. In 1864 the diplomas granted were 8,608, and in 1865 they rose to 9,734, an increase of 1,126. The number for 1866 is not yet known.

Free Lectures.—The courses of free lectures were 876 in 1864, and in 1865 they rose to 1,003, of which 302 were placed under the auspices of the municipalities, chambers of commerce, and learned or industrial societies. The subjects treated were sciences and applied sciences, 203; literature, 394; history, 103; political economy, 18; rights, 69; archæology, 15; fine arts, 48; hygiène, 40; agriculture, 24; geography, 36; Greek philosophy, 33. Total 1,003.

Science and Letters.—The publications of the Institute, which are always looked forward to with anxiety, appeared as usual. The second part of the historical dictionary of the national language has great interest.

Academy of Inscriptions.—The second part of its twenty-fifth volume has appeared, also the second part of the eighteenth volume of extracts of MSS.

The Academy of Science has published the sixty-second and sixty-third volumes of the weekly "Comptes rendu."

Academy of Fine Arts, from want of funds has not published.

Public Libraries.—A new reading room has been opened in the imperial library.

Pali Manuscripts.—A large collection of Pali manuscripts, obtained in 1866, from Ceylon and Burmah, relates to the Buddhist religion and literature. Numerous valuable gifts have been made to the library, and the catalogue is pushed on with all activity. The tenth volume of the catalogue of books relating to the history of France, and the second volume relating to works on medical science, are ready for printing. The letters patent of the Kings of France have been classified. The medals also of the collection of the Duke de Guynes have also been catalogued.

Learned Societies.—The labours of learned societies are reported to a committee instituted by the Minister of Public Instruction, and comptes rendu, in two volumes, of these reports have been published. The Minister of Public Instruction also encourages the exchange of publications between these societies, and in 1866 no less

than 7,000 exchanges took place through the Minister of Public Instruction. Subventions have been granted to 120 learned societies.

Topography of the Gauls by the Commission.—A topographical chart of the Gauls in the eighth century has been printed, together with a dictionary.

Scientific and Literary Missions.—The exploration of Persia, Herat, and Affghanistan, commenced in 1866 by that courageous traveller M. Lejean, has continued through 1866, with valuable results relating to antiquities, ethnology, language, and geography.

Collections—Curious collections in zoology and botany have been made by a learned "Lazarist" in Tartary, to whom the work was confided. M. R. P. David is now visiting the regions of China where no European has hitherto penetrated.

Excavations.—In the island of Samothrace have produced valuable relics of antiquity and inscriptions.

Volcanic Eruptions.—In 1865 M. Fougué was deputed to observe the phenomena of the eruption of Etna and in the isle of Santorin.

Travellers.—Travellers were also sent through Europe, particularly England, and in Germany and Spain and Italy, to look for documents chiefly relating to French history.

Ptolemy.—The Greek MSS. of Ptolemy in different libraries have been collected and compared, with a view to a new edition.

Mexico.—A scientific mission in Mexico, commenced in 1864, was continued to the end of 1866, amidst great difficulties.

The Imperial Observatory.—The volume of astronomical observations for 1865 has been published. Observations on the swarm (essaim) of small planets have been made in conjunction with Greenwich.

Meteorology.—The study of meteorology on a vast scale is pursued with success. The service of meteorological notices or warnings (avertissements meteorologiques) given to the seaports, as commended by the councils of experience, are given regularly morning and evening.

Terrestrial Magnetism.—Observations on terrestrial magnetism are continued at Paris.

Climate of France.—Observations for determining the climate of France in the present time are zealously carried on in the normal schools. The report of the previous seven years' observations have been distributed to the conseils-general.

Progress of Storms.—The departmental meteorological commissions established by the prefects, have furnished data for studying the progress of storms in France. The lists of the storms of 1865 in France has been printed. Holland, Belgium, and Luxemburgh are in union with France in this work.

Maps of Atmospheric Movements.—183 maps of the great move-

ments of the atmosphere, from New Holland and the Antilles to Europe and the frontiers of Asia, have been published. Data have been furnished liberally by the observatories of Europe, by the imperial marine of France, by the merchant marine, and by the marines of England, Holland, and Russia.

Great Telescope.—The observatory is grinding crown and flint object-glasses which have long been in its possession, with a view to the construction of a telescope of exceptional dimensions. The observatory was founded in 1667, and has, therefore, completed its two hundredth year.

Board of Longitude.—The board publishes its transactions as usual. In 1866 it prepared a plan for determining with great exactitude certain points on the globe by astronomical observations, which points fixed would enable other points to be fixed. The Admiralty has engaged to detach some officers for this object, and hydrographical engineers will co-operate, and it is expected the project will be speedily put into execution.

War Department. Mexico.—The operations of the French expedition commenced in 1865, and concentration took place to bring the troops home in 1866.

Algeria.—Complete tranquillity was established in Algeria since 1864, with some trifling exceptions on the borders by the tribe of Onled, Sidi Sheik.

Rome.—The convention with Rome of 1864, commenced its operation by the return of a division to France in November, 1865, and the complete evacuation of the pontifical territories took place on the 12th December, 1866.

Reorganisation and Recruitment.—After being an attentive spectator of the events of 1866 in Germany, the emperor saw that it was necessary to reorganise the national forces on a base sufficiently broad to meet all eventualities, and to maintain the legitimate influence of France.

Plan of Reorganisation.—A commission of the cabinet and of distinguished military men, under the presidency of the emperor, arranged a plan, which was submitted to the Council of State, and which was to be discussed by the legislative body.

Reduction of the Cadres of the Army.—The Order of the 15th November, 1865, for the reduction of the cadres, with a view to diminish expense, was carried out in the first month of 1866, which reduction has left without employ 1,193 officers of all ranks; 75 of those whose services did not entitle them to pensions, have been provided for in the financial or other departments, and others have been placed as supernumeraries with regiments, to succeed as vacancies occur.

Fire Brigade of Paris.—Owing to the extension of the city of

Paris, the old fire brigade of six companies has been found insufficient, and it has been reorganised into two battalions of six companies each.

Fourth Battalion of Algerian Sharpshooters Raised.—The emperor, after his visit to Algeria, ordered a fourth battalion of tirailleurs to be raised, and the regiment now consists of 3,000 men.

Conscription for 1866.—The contingent from the 20th to 25th August, 1866, produced 27,210 appearances, of which 3,857 were allotted to the maritime force. Of the 100,000 men of the contingent 1865, no less than 22,765 were exonerated, being an increase of exonerations over 1864 of 4,013, and this is attributed to the fact that the smart money, which in 1865 was 2,300 frs., in 1866 was reduced to 2,100 frs.

Transfers to the Reserve.—Men whose service was about to expire on the 31st October, 1866, were permitted to return to their homes, retaining their names as "reserve," and this diminished the effective strength by about 11,000 men.

Recruits.—The recruits of 1863 who had completed their exercises in 1864, were, on the 5th January and 5th March, 1866, transferred to the depôts of instruction. Recruits of the second class of 1866, have been called together to go through the first three months of their exercise, from the 1st October to the 31st December, 1866.

Reports of Generals of Division.—The reports of the generals of division with respect to the attendance of the soldiers of the reserve for drill have been satisfactory.

Effectives of the Army and the Reserve.

	Men.
Interior	298,680
Algeria	62,462
Italy	7,505
Mexico	26,838
Total	395,485

The mean of the preceding six months was 390,771 men. The effective of the reserve on the 12th November, 1866, was 255,614.

Military Schools.—Having given an account of the military schools in the comparison between the organisation and strength of the English and French armies, which is printed in the *Journal of the Statistical Society of London*,* I will limit myself to naming them on this occasion.

Polytechnic.—The Polytechnic, remodelled on the 30th November, 1863, continues to work successfully. Those pupils or students who do not attain the prescribed standard, seek employment in other paths in life.

* Vol. xxvii, pp. 1 *et seq.*

Saint Cyr.—Saint Cyr sends annually many highly-educated officers into the army, and regimental officers, after two years' service, are promoted to go to the cavalry depôt at Saumur to complete an equitation course.

Imperial Prytanée.—This school is for the education of the sons of officers without fortune, and annually sends students to the Polytechnic, Saint Cyr, or to the naval school.

Education in the Army.—Notwithstanding the regimental schools, many men complete their time of service without having learnt to read or write. To remedy this defect, instead of one school for a regiment of three or more battalions, a school for each battalion is ordered, and even for detachments, and it is made imperative upon the non-commissioned to go through certain prescribed courses of instruction, four in number, proceeding from one to the other according to the capacity of the individual.

Books are provided, and every branch has a reading-room, provided with globes, maps, charts, and useful books, independently of the schoolroom. Annual examinations take place, and when the system is more advanced, few soldiers will return to their homes uneducated.

Libraries for Officers.—The Minister for War has also established libraries on a larger scale for the benefit of officers; at the headquarters of divisions, such as Lyons, Luneville, Versailles, and the camp at Chalons, are complete, and others are in progress of formation.

Rifle School.—Officers and non-commissioned officers are instructed in the rifle school. These instruct the regiments to which they belong. The rifle depôt at Vincennes has turned out 66 officers and 824 non-commissioned of the imperial guard, and 289 officers and 3,095 non-commissioned of the line.

Vocal Musical Instruction.—The remarkable success of the method followed in the normal gymnastic school, after Chevé, has induced the Minister at War to order instruction in vocal music in every regiment; the teachers to be taken from the normal school at Vincennes.

Small Sword, Sabre, and Lance Instruction.—The Minister of War has established a course of instruction in the use of the small sword, sabre, and lance, in the normal school of gymnastics at Vincennes.

Military Justice.—The council of war and the two councils of appeal have been suppressed with a view to economy, and their functions have been divided amongst the other military tribunals.

Military Prisons.—Military prisons are no longer provisioned by contract.

Cavalry Remounts.—In 1866, at the mean price of 800 frs.

(32*l.*), 8,586 effective horses were purchased. This successful result justifies the permanent depôts for purchase, so that horse dealers and breeders may always know where to go to.

Horses Lent to Cultivators.—After the campaign in Italy the army possessed more horses than it required for a peace establishment; 22,000 horses were lent to the farmers, 2,400 were withdrawn for Mexico and Algeria, about 7,000 died, but in 1866 about 12,000 remained with the farmers in an effective state; but as after seven years' possession the horses were to become the property of those to whom they were lent, on the 1st January, 1867, not more than 4,802 would be in the hands of the farmers.

Artillery.—The manufacture of powder, which was formerly in the financial department, by the order of the 17th June, 1865, was transferred to the artillery, which has made cannon, cartridge, and mining powder.

Small Arms.—The consideration of the best kind of small arm was under the permanent commission at Vincennes, who finally determined, January, 1866, on a breech loader, and it has been adopted under the name of Model Rifle of 1866. Suitable machinery has been erected at Puteaux for the production of these rifles. All the machinery required has been ordered from private parties. In the month of April, 1867, this manufactory will be able to produce rapidly all the small arms required for the army. The foundry at Bourges has been completed, 1st July, 1866, and the new manufactory of small arms at Saint Etienne, by machinery, continues to work well.

Engineers.—The Minister of War, moved by various parties and by the populations interested, has seriously considered whether it was not possible to abandon some of the fortified places, and he came to the conclusion that ninety-eight places might be abandoned or modified, as follows:—

To be abandoned, and land sold	28
„ unclassed, but considered military	9
To maintain in classe, but to abandon the radius beyond the walls	37
„ *reduce* the zones beyond the walls	34
Total	98

The products to be applied to the completion of the fortifications maintained.

The places where the products are to be applied are named, and for what works—Paris, Hôtel des Invalids, military hospital of Val de Grâce, Havre, Lille, Belfort, Grenoble, Avignon, Toulon, Valome, Clermont, and Bourg.

Administration.—The arrangements for clothing and encamping

the army being about to terminate, the alterations of the tariff with foreign countries, the admission of woollen and cotton fabrics, will permit the offer of tenders from all solvent parties.

Increased Pay—Owing to the increase of prices, the pay of captains, lieutenants, and sub-lieutenants, has been improved from the 1st January, 1867.

Commissariat. Provision Department.—With a view to economy, eight permanent modes of supply have been suppressed, and tenders are invited; as soon as the results of the late harvest were known, the War Department made large purchases of oats before prices could rise, greatly to the advantage of economy.

Notwithstanding the enhanced price of provisions, the ordinaries for the soldiers have even improved, owing to the contracts being made for each battalion instead of each company, &c.

Hotel des Invalides.—On the 29th June, 1863, some modifications were made which effected a saving of 52,000 frs. without touching efficiency.

School of Health at Strasbourg.—This hospital would seem to have the same object as that of Netley, to give practical knowledge to young surgeons.

Military Hospitals.—Some have been suppressed and their sick placed in others; and the patients of the hospitals of Toulon and Bonefacio have been transferred to the maritime hospital. Special arrangements have been made with respect to nurses. On the 1st January, 1865, a common system for hospital supplies was ordered, which in 1866 was found to have worked well.

Exposition Universal of 1867.—The Department of War supplied specimens of arms, cannon, ambulances, in fact of every thing connected with war and its operations, to the exposition.

Depôt of the War Office.—This department embraces topography, illustrated by engravings; galvano-plastic, and photography.

Algeria.—It is only necessary to say that the moveable columns have reduced the rebels to submission. Proprietary rights are being established.

Mahomedan Laws.—Justice is being administered amongst the Arabs according to Mahomedan law, and public instruction and schools of art established.

European Population of Algeria.—The quinquennial census, in 1866, gives 217,990 European inhabitants, and 8,616 connected with religious establishments, penitentiaries, and benevolent institutions. In 1861 the fixed population was only 192,746.

Public Works and Railways.—The Society General of Algiers have received annuities at present of $12\frac{1}{2}$ millions of frs., and for the future will receive 16,666,666 frs. for roads, draining marshes, irrigation, supply of water, and planting woods. The railways are

making great progress by the companies to whom concessions have been granted. Various other details are given with respect to the finances, commerce, &c., &c.

Marine.—Not any modification has taken place in 1866 in the disposition of French vessels of war in different parts of the globe, for the protection of French interests.

Murder of the Missionary in Coree.—The French admiral in China, in consequence of the murder of the missionary, ascended the River Han Kiang and destroyed the capital of Coree, called Seoul.

Japan.—In Japan, at the request of the Taicoon, French engineers have constructed a dock at Jokoska for the repairs of ships. The French force in the East has only been augmented by 300 marines.

Cochin China.—Affairs are, on the whole, satisfactory, and the charges on France have been diminished.

Proprietors.—The native proprietors in Cochin China inscribed on the registers have increased from 35,778 in 1865, to 39,369 in 1866.

Agricultural Exhibition.—An agricultural exhibition has taken place at Saigon, and succeeded.

Public Instruction.—Public schools for males and females have been opened. Twenty-four schools are attended by 684 students. The girls' school, under the Sisters of St. Paul of Chartres, from want of means is confined to 100 girls.

Explorations.—Explorations are taking place in Cambodji; the ruins of Angier have been examined beyond the great lake, and the principal branch of the great river Me Kong navigated.

Madagascar.—The squadron on the coast of Madagascar has facilitated negociations with the Hove Government. In the Gulf of Mexico, and on the coasts of the Pacific the French navy secure French interests.

Details of Decrees.—Details are then given of decrees issued affecting modifications in naval matters.

Marines.—In consequence of the small number of marines left in France, it has been necessary to augment the marine gendarmerie for the charge of the arsenals.

Fisheries.—In 1866 the sale of fish produced 41,009,500 frs.; 15,898 boats and 57,961 seamen were engaged in it, being an increase over 1865 of 5,362,328 frs., 470 boats, and 1,665 men.

Piers.—Grants for piers have been given for many places.

Oyster Beds.—Oyster beds have been carefully looked after.

Marine Pensions.—On the 1st January, 1866, the amount of pensions in the marines amounted to 13,718,000 frs., and by 31st December would be 14,471,000 frs.

Besides the pensions the chest of the Invalides has contributed

600,000 frs. to seamen who, by reason of their infirmities, required aid.

Shipwreck Society. — The society under Admiral Ryault de Genouilly is developing itself rapidly; in 1866 there were established twenty-four stations on the coasts with lifeboats, and others are being added.

Shipbuilding.—In 1865 the number of ships of war was 129; on 31st December, 1866, the number was 130, as follows:—

		Mixed.
Frigates, iron-clad	13	—
Corvette „	1	—
Coastguard „	1	—
Ships, not iron-clad	12	23
Frigates „	18	6
Corvettes	12	—
Despatch-boats, paddle	44	—
	101	29
Total	130	

So that there was an addition of only one ship of war in numbers to the French navy in 1866. The following were replaced:—one was old, one lost, and five struck off the list; and these were made up by three iron-clad frigates of 1,000 horse-power each, one corvette not iron, and three despatch-boats (paddle) of 450 horse-power.

Complete List of Steam Vessels Finished.

	Number.	Horse-power.
Vessels and frigates, armour-plated	+ 13	12,000
Corvettes, armour-plated	+ 1	500
Coastguards „	+ 1	500
Batteries for roadsteads, armour-plated	+ 14	2,475
„ lakes and rivers „	+ 11	460
Screw steamers (rapid), not armour-plated	12	10,200
„ transports „	23	13,600
Frigates, screw (rapid) „	18	10,080
„ transports „	6	1,180
Paddle frigates „ „	13	6,140
Screw corvettes, not armour-plated	12	4,970
Paddle „ „	8	2,720
Screw despatch-boats „	44	6,045
Paddle „ „	32	5,870
Gunboats, wood „	40	2,156
„ iron „	25	420
Screw transports, storeships not armour-plated	47	11,500
	340	92,106

On the 31st December, 1865, the list contained only 327 vessels

and 90,000 horse-power, an increase of 13, as follows: new vessels, 25; lost, 1; struck out of the navy, 11. Increase 13.

Building, Twenty-Eight Vessels of 12,670 Horse-Power.

4 frigates, armour-plated	.....	3,800
7 corvettes „	.....	3,150
3 coastguards „	.....	1,590
2 batteries for roadsteads, armour-plated	.....	300
1 screw frigate, not armour-plated	.....	480
3 corvettes „	.....	1,350
7 despatch-boats „	.....	1,500
1 transport „	.....	500

Sailing Ships.—Numbered 82, comprising only one vessel of the first class and 15 frigates.

Naval Arsenals.—At Cherbourg, Brest, Lorient, Rochfort, and Tulon, all the necessary works and defences have been completed.

Gunnery.—The Government has become aware that, owing to the improvement in rifled cannon, it has become necessary to thicken the iron plates gradually 8 to 11, and ultimately in some parts of a vessel, to 20 and 24 centimetres; and the weight of cannon have risen through 5 tons to 8, 14, 20, and even beyond; and the weight of the projectiles have risen to 15, 20, 75, 150, to 230 kilogrammes. These changes effect seriously the previous relations between land and sea defences. All cannon are now rifled and load at the breech; the projectiles oblong, and they are experimented with on board the Magnanime, la Savoie, and la Belliqueuse. The foundries are in course of adaptation to meet these colossal castings.

Colonies.—The colonies are under the Minister of Marine, but as I have given an account of them in my Paper on "The Comparative "Organisations of the English and French Navies," published in the *Statistical Journal*,* it is unnecessary to say more than a few words.

Immigrants from India.—The famine in India in 1866, has furnished the French depôts of Pondicherry, and Karikal has supplied a sufficient number of coolies for exportation to Guadeloupe, Martinique, and Guyane. The financial state of Réunion (Bourbon) limited the importation.

Colonial Bank.—The colonial bank has lent 36,090,428 frs. up to the end of 1866.

African Settlements.—The French settlements on the coast of Africa, Senegal, Goree, and others, are increasing their agriculture and trade; and the protection given to neighbouring native tribes is leading to their civilisation and the decline of the slave trade.

Foreign Affairs.—In Germany and Italy the edifice of 1815 has fallen to the ground, and France has no reason to afflict itself for

* Vol. xxix, pp. 36 *et seq.*

the event, and has not had to draw the sword in effecting the result. The federal system of Germany was not in accord with modern ideas; but as the lengthened review embraces politics only, the Statistical Section may not think it desirable to have more said.

Commercial Affairs.—The commercial reform effected by the emperor in 1860 is daily developing itself satisfactorily; and France desires to put itself in the same commercial relations with other States as with England.

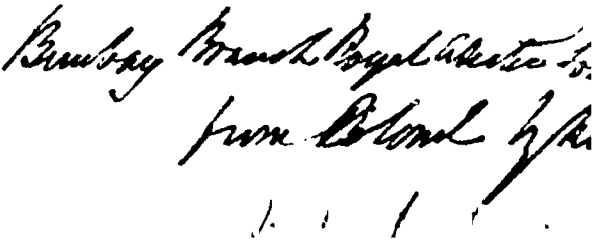
Universal Code of Maritime Signals.—A common or universal code between England and France, for vessels of war and commerce, has been adopted, and progress is making in getting other States to adopt it.

Fisheries.—On the vexed question of fisheries France and England have appointed a mixed commission to draw up a convention.

International Laws.—Notwithstanding the precise terms in which international acts are drawn, and notwithstanding the good faith of the parties, the difficulties of interpretation lead to daily misunderstandings, and there remains yet much to be done in this matter.

Final.—Such is the report on the exact state of the empire of France, presented annually at the commencement of each session to the Senate and Legislative Bodies, and which is placed in the hands of every member of those bodies, as a guide to his legislative action during the session. Everywhere, and in every branch of the administration, there is the same energy and systematic organisation, embracing the minutest details. It were well that the English Houses of Parliament had a similar exposé presented. A report of progress with regard to our empire in India finds its way to Parliament sometime during the session; but its bulk deters members from reading it, as it is in two or three folio volumes. It wants condensation and systematic arrangement. This year, however, an admirable octavo pamphlet of the statistics of India for twelve to fifteen years past, has been laid upon the table of the House of Commons, and it will no doubt be continued. The Statistical Department of the Board of Trade has for some years past presented a similar volume of "The Statistics of Great Britain and "her Colonies," which are invaluable for reference, but they do not supply the place of the French "Report."

HARRISON AND SONS, PRINTERS IN ORDINARY TO HER MAJESTY, ST. MARTIN'S LANE.



MORTALITY AND CHIEF DISEASES

OF THE

TROOPS UNDER THE MADRAS GOVERNMENT,

EUROPEAN AND NATIVE,

FROM THE YEARS 1812 TO 1846 INCLUSIVE,

COMPARED WITH THE MORTALITY AND CHIEF DISEASES OF 1847.

By Lieut.-Col. W. H. SYKES, F.R.S.

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From the JOURNAL OF THE STATISTICAL SOCIETY OF LONDON,
MAY, 1851.

Mortality and Chief Diseases of the Troops under the Madras Government, European and Native, from the Years 1842 *to* 1846 *inclusive, compared with the Mortality and Chief Diseases of* 1847. By LIEUT.-COLONEL W. H. SYKES, F.R.S.*

THE following tables are extracted from the official Report of the Medical Board to the Madras Government, and comprise the Royal as well as the Company's troops, and possess great interest, from exhibiting, separately, the mortality from nine of the principal diseases to which the troops were subject in each division of the army, so that the local character of the climate of the respective stations is shown, as influencing the development of particular diseases, or mitigating or increasing their fatal effects. That these local climatorial influences are important, is manifested by the facts, that the per centage mortality for five years, amongst Europeans, varies from 2·353 per cent., in the Mysore Division, to nearly 6 per cent. in the Ceded Districts and Hyderabad Subsidiary Forces, and 6·022 per cent. in the Northern Division; and amongst the Native troops, from 0·808 per cent. in Malabar and Canara, to 8·937 per cent. in China. To enable the eye to follow uninterruptedly the effects of the same disease in different localities, I have drawn up tables (Tables LIII. to LVI.) which place the per centage mortality of each disease in the same vertical columns, and a glance from the top to the bottom of the column shows at once the relative intensity at each place. For instance, amongst the Europeans, with the exception of cholera, there is but one station (Nagpore) where the mortality from fevers exceeds 1 per cent. of the strength, and there are but three stations (Malabar and Canara, Hyderabad, and the Tenasserim provinces) where the mortality exceeds 1 per cent. from dysentery. In the other seven diseases, there are but two instances where the mortality exceeds a half per cent. The liver disease, usually considered so formidable to European constitutions, at only one station (Hyderabad) amounts to seven-tenths per cent. Amongst the Native troops, again, excepting cholera, there is not a single station in Madras at which the other eight diseases produced a mortality of even a half per cent. Fevers in the Tenasserim provinces caused a mortality of six-tenths per cent.; and rheumatism, at Aden, of five-tenths. China, unhappily, stands by itself. During the six years the Madras Native troops were there, fevers, diarrhœa, and dysentery, told with fatal effects. This table, then, and a similar table for the number of cases, afford the means of comparing the intensity of the same diseases at different stations; it remains for the physicist to inquire how far the local circumstances of soil, mephitic marshes, periodical winds, moisture or dryness, or other atmospheric phenomena, ventilation, drainage, diet, modes of living, or social or moral habits, appear to influence the several diseases; and knowledge so obtained could necessarily be

* I do not purpose making any comparisons between the results in the following tables and those shown in the valuable Contribution to the Vital Statistics of the Madras Army, by the late Sir James Annesly. It will suffice to say that the mortality amongst the European troops is materially lessened in modern times, while that of the Native troops remains much the same.

turned to profitable account, in bringing into operation such expedients as might affect the agents within human control. That a mere change of climate, even within a narrow range of latitude, may give a very considerable development to diseases which were previously scarcely manifest, is shown in the Native troops of the Madras army sent to serve in China. In the Madras territories, the per centage mortality amongst the Sepoys from diseases of the chest, which during the five years from 1842 to 1846, could not be counted by the second place of decimals per cent. (except in the Centre Division), and ranging from 1 in 1181 men to 1 in 5773, mounted in China to the first places of decimals, or 1 in 517. That this is no accidental circumstance, is indicated by the period of time over which the mortality runs. In 1847, there was only 1 death from diseases of the lungs in 888 Sepoys; still it is nearly seven times greater than in India. The same observations apply with great force to fevers, diarrhœa, and dysentery. In the Tenasserim provinces, there was only 1 death from diarrhœa in 405 men; while in China, there was 1 in 34 men. But I am anticipating an analytical review of the tables.

Another characteristic of the Medical Report is a table of the mortality amongst Europeans after certain periods of residence in India. Although relating to limited numbers, it may be of some importance to the actuary in estimating the value of European life in the tropics, at least as far as the effects of climate upon Europeans can be estimated, with the European soldier as a type.

A third characteristic of the Medical Report is the result of experiments to determine the amount of heat to which the soldier's head is exposed on the line of march, in which the helmet, shako, or Sepoy's turban, is without or with a white covering, and the interior cavity of the head gear without or with moisture: the results are highly instructive.

The following tables, from 1842 to 1846, inclusive, relate to the diseases and mortality of 59,218 Europeans, embracing those of the Royal army as well as those of the Company, and 363,726 natives; and for the year 1847, to 11,303 Europeans and 67,015 native soldiers. These masses are classed in fourteen divisional commands, forces, and stations, namely, Presidency Division, Centre Division, Southern Division, Northern Division, Mysore Division, Malabar and Canara, The Ceded Districts, Hyderabad Subsidiary Force, Nagpore Subsidiary Force, the Tenasserim provinces, Saugor, Southern Mahratta country, Aden, and China; so that, in fact, the area within which the troops are serving extends from the longitude of Aden 45°.3, to the longitude of Hong Kong 114°.22, and from north latitude 8°.5 (Cape Cormorin), up to 22°.50 north latitude in Saugor; the area consequently embracing both monsoons and many varieties of climate. Nevertheless, the European troops serving under the Madras Government have a very considerably smaller mortality than is experienced by the troops of the Bengal and Bombay Governments; and this result is in confirmation of the facts I formerly published in the Society's Journal, respecting the mortality of the Indian army. The present tables, however, embrace the Royal as well as the Company's troops, which the former tables did not. I will not dwell upon the returns from the respective divisions, but, after the insertion of the tables, give a compendious view of the results they offer.

PRESIDENCY DIVISION.

TABLE *Exhibiting the Admissions and Deaths from Nine Principal Diseases for Five Years, from* 1842 *to* 1846 *inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

I.—EUROPEANS.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Presidency Division	7,895	87	49	1,459	9	537	13	628	9	661	40	100	14	772	3	1,042	1	28	2	5,314	140	9,947	189
Per centage of Treated to Strength		1·176		19·729		7·261		8·492		8·938		1·352		10·439		14·090		0·378		71·859		134·509	
Ditto of Deaths to do.		0·662		0·121		0·175		0·121		0·540		0·189		0·040		0·013		0·027		1·893		2·555	
Ditto do. to Treated		56·321		0·616		2·420		1·433		6·051		14·000		0·388		0·095		7·142		2·634		1·900	
II.—NATIVES.																							
Presidency Division	23,093	484	213	3,320	55	20	8	436	45	202	14	90	4	1,161	18	588	5	142	20	6,453	382	12,326	500
Per centage of Treated to Strength		2·095		14·376		0·129		1·888		0·874		0·389		5·027		2·546		0·614		27·943		55·375	
Ditto of Deaths to do.		0·922		0·238		0·034		0·194		0·060		0·017		0·077		0·021		0·086		1·654		2·165	
Ditto do. to Treated		44·008		1·656		26·666		10·321		6·930		4·444		1·550		0·850		14·084		5·919		4·056	
For the Year 1847.																							
III.—EUROPEANS.																							
Presidency Division	1,338	2	2	116	4	54	7	154	2	48	7	17	5	75	...	842	...	3	...	811	27	1,694	41
Per centage of Treated to Strength		0·149		8·669		4·035		11·509		3·587		1·270		5·605		25·560		0·224		60·612		126·606	
Ditto of Deaths to do.		0·149		0·298		0·523		0·149		0·523		0·373		...		...		...		2·017		3·064	
Ditto do. to Treated		100·000		3·448		12·962		1·298		14·583		29·411		...		...		...		3·329		2·420	
IV.—NATIVES.																							
Presidency Division	4,342	19	11	391	9	8	2	66	9	24	1	14	3	218	3	110	...	42	6	892	42	1,811	71
Per centage of Treated to Strength		0·437		9·005		0·184		1·520		0·552		0·322		5·020		8·533		0·967		20·543		41·708	
Ditto of Deaths to do.		0·253		0·207		0·046		0·161		0·023		0·069		0·069		...		0·138		0·967		1·635	
Ditto do. to Treated		57·894		2·301		25·000		10·606		4·166		21·421		1·376		...		14·285		4·708		3·920	

Centre Division.

Table *Exhibiting the Admissions and Deaths from Nine Principal Diseases for Five Years, from* 1842 *to* 1846 *inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

V.—EUROPEANS.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Centre Division	11,088	278	165	1,595	23	579	19	1,124	38	1,235	67	205	24	975	10	1,615	10	46	10	7,642	366	14,655	470
Per centage of Treated to Strength		2·507		14·384		5·221		10·137		11·047		1·848		8·793		14·565		0·414		68·921		132·169	
Ditto of Deaths to do.		1·488		0·207		0·171		0·312		0·604		0·216		0·090		0·090		0·090		3·300		4·238	
Ditto do. to Treated		59·352		1·443		3·281		3·380		5·469		11·707		1·025		0·619		21·739		4·789		3·207	
VI.—NATIVES.																							
Centre Division	31,783	535	237	4,088	83	27	1	799	62	339	34	925	36	2,067	32	738	14	238	54	9,056	553	16,643	711
Per centage of Treated to Strength		1·683		12·862		0·084		2·513		1·066		0·707		6·503		2·321		0·748		28·493		52·364	
Ditto of Deaths to do.		0·745		0·261		0·003		0·195		0·106		0·113		0·100		0·044		0·169		1·739		2·237	
Ditto do. to Treated		44·299		2·030		3·703		7·759		10·629		16·000		1·548		1·897		22·689		6·106		4·272	
***For the Year* 1847.**																							
VII.—EUROPEANS.																							
Centre Division	2,943	...	...	675	9	146	13	217	4	486	56	65	5	234	2	454	3	13	1	2,290	93	3,856	124
Per centage of Treated to Strength		...		22·935		4·960		7·373		16·513		2·208		7·950		15·426		0·441		77·811		131·022	
Ditto of Deaths to do.		...		0·305		0·441		0·135		1·902		0·169		0·067		0·101		0·033		3·160		4·213	
Ditto do. to Treated		...		1·333		8·904		1·843		11·522		7·692		0·854		0·660		7·692		4·061		3·215	
VIII.—NATIVES.																							
Centre Division	6,288	18	6	548	9	9	3	69	5	69	...	25	3	305	5	172	1	57	15	1,272	47	2,789	85
Per centage of Treated to Strength		0·286		8·715		0·148		1·097		1·097		0·397		4·850		2·735		0·906		20·229		44·354	
Ditto of Deaths to do.		0·095		0·143		0·047		0·079		...		0·047		0·079		0·015		0·238		0·747		1·351	
Ditto do. to Treated		33·333		1·642		33·333		7·246		...		12·000		1·639		0·581		26·315		3·694		3·047	

SOUTHERN DIVISION.

TABLE *Exhibiting the Admissions and Deaths from Nine Principal Diseases for Five Years, from* 1842 *to* 1846 *inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

IX.—EUROPEANS.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Southern Division	4,463	115	63	2,052	35	353	9	934	5	431	22	59	3	378	...	822	1	7	2	5,131	140	9,284	166
Per centage of Treated to Strength		2·582		46·081		7·478		20·974		9·678		1·324		8·488		18·459		0·157		115·225		208·488	
Ditto of Deaths to do.		1·414		0·785		0·067		0·112		0·494		0·067		...		0·022		0·044		3·143		3·705	
Ditto do. to Treated		54·782		1·705		2·702		0·535		5·104		5·084		...		0·121		28·571		2·728		1·777	
X.—NATIVES.																							
Southern Division	33,477	1,664	750	8,436	75	52	9	749	22	453	34	181	20	2,068	9	720	6	107	23	14,430	948	23,970	1,034
Per centage of Treated to Strength		4·970		25·199		0·155		2·237		1·353		0·540		6·177		2·150		0·319		43·104		71·601	
Ditto of Deaths to do.		2·240		0·224		0·026		0·065		0·101		0·059		0·026		0·017		0·068		2·831		3·088	
Ditto do. to Treated		45·072		0·889		17·307		2·937		7·505		11·049		0·435		0·833		21·495		6·569		4·313	
For the Year 1847.																							
XI.—EUROPEANS.																							
Southern Division	1,027	1	...	468	3	73	1	101	1	92	5	24	...	166	...	344	...	2	...	1,271	10	2,049	18
Per centage of Treated to Strength		0·097		45·569		7·108		9·834		8·958		2·336		16·163		33·495		0·194		123·758		199·513	
Ditto of Deaths to do.		...		0·292		0·097		0·097		0·486		...		...		...		...		0·973		1·265	
Ditto do. to Treated		...		0·641		0·369		0·990		5·434		...		...		...		...		0·786		0·634	
XII.—NATIVES.																							
Southern Division	5,746	48	18	1,617	8	11	1	211	6	111	5	60	5	478	2	236	1	20	5	2,792	51	4,903	87
Per centage of Treated to Strength		0·835		28·141		0·191		3·672		0·931		1·044		8·318		4·107		0·348		48·590		85·328	
Ditto of Deaths to do.		0·313		0·139		0·017		0·104		0·087		0·087		0·034		0·017		0·087		0·887		1·514	
Ditto do. to Treated		37·500		0·494		9·090		2·843		4·504		8·333		0·418		0·423		25·000		1·826		1·774	

Northern Division.

Table *Showing the Admissions and Deaths from Nine Principal Diseases amongst the European and Native Troops for Five Years, from 1842 to 1846 inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

XIII.—EUROPEANS.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Northern Division	797	3	2	37	1	2½	1	31	6	28	4	40	6	60	2	28	1	10	2	258	25	635	48
Per centage of Treated to Strength		0·376		4·642		2·634		3·889		3·513		5·018		7·528		3·513		1·254		32·371		79·673	
Ditto of Deaths to do.		0·250		0·125		0·125		0·752		0·501		0·752		0·250		0·125		0·250		3·136		6·022	
Ditto do. to Treated		66·666		2·703		4·761		19·354		14·285		15·000		3·333		3·571		20·000		9·689		7·559	

XIV.—NATIVES.

Northern Division	41,348	824	365	11,770	145	32	2	438	13	370	28	412	35	4,089	48	2,166	14	978	102	21,079	742	31,769	874
Per centage of Treated to Strength		1·992		28·465		0·077		1·059		0·894		0·996		9·889		5·238		2·365		50·979		76·833	
Ditto of Deaths to do.		0·858		0·350		0·004		0·031		0·069		0·084		0·116		0·033		0·246		1·794		2·113	
Ditto do. to Treated		43·082		1·231		0·250		2·968		7·567		8·495		1·173		0·646		10·429		3·520		2·751	

For the Year 1847.

XV.—EUROPEANS.

Northern Division	168	...	...	15	1	1	...	7	2	4	...	8	1	7	...	9	...	2	...	53	4	126	6
Per centage of Treated to Strength		...		8·928		0·595		4·166		2·380		4·761		4·166		5·357		1·190		31·547		75·000	
Ditto of Deaths to do.		...		0·595		...		1·190		...		0·595		...		...		...		2·380		3·571	
Ditto do. to Treated		...		6·666		...		28·571		...		12·500		...		...		...		7·547		4·761	

XVI.—NATIVES.

Northern Division	9,990½	3	1	7,876	78	14	2	163	8	273	30	69	11	999	9	393	2	269	17	10,059	158	13,255	194
Per centage of Treated to Strength		0·030		78·832		0·140		1·638		2·732		0·690		9·999		3·933		2·692		100·683		132·672	
Ditto of Deaths to do.		0·010		0·780		0·020		0·080		0·300		0·110		0·090		0·020		0·170		1·581		1·941	
Ditto do. to Treated		33·333		0·990		14·285		4·907		10·989		15·942		0·900		0·508		6·319		1·570		1·463	

TABLE *Exhibiting the Admissions and Deaths from Nine Principal Diseases, from* 1842 *to* 1846 (*Five Years*) *inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

XVII.—EUROPEANS.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Mysore Division	9,261	127	44	1,233	13	663	22	391	8	1,104	64	105	13	669	3	2,408	4	12	2	26,772	183	12,186	218
Per centage of Treated to Strength		1·371		13·313		7·159		4·222		11·920		1·133		7·223		26·649		0·129		73·123		131·584	
Ditto of Deaths to do.		0·475		0·140		0·345		0·086		0·691		0·140		0·032		0·043		0·021		1·976		2·353	
Ditto do. to Treated		34·645		1·054		4·826		2·046		5·797		12·380		0·448		0·163		16·666		2·702		1·788	

XVIII.—NATIVES.

Mysore Division	33,937	1,351	587	5,813	81	60	7	660	22	303	15	179	19	1,691	16	800	6	108	17	10,965	770	20,502	879
Per centage of Treated to Strength		3·992		17·179		0·177		1·950		0·895		0·529		4·997		2·364		0·319		32·405		60·590	
Ditto of Deaths to do.		1·734		0·239		0·020		0·065		0·044		0·056		0·047		0·017		0·050		2·275		2·591	
Ditto do. to Treated		43·449		1·393		11·666		3·333		4·950		0·946		10·614		0·750		15·740		7·022		4·277	

For the Year 1847.

XIX.—EUROPEANS.

Mysore Division	1,366	28	19	211	5	106	3	163	1	221	10	41	1	114	...	758	...	2	...	1,644	39	2,696	49
Per centage of Treated to Strength		1·500		11·307		5·680		8·735		11·843		2·197		6·109		40·621		1·106		88·102		144·480	
Ditto of Deaths to do.		1·018		0·267		0·159		0·053		0·535		0·053		...		...		...		2·090		2·625	
Ditto do. to Treated		67·857		2·369		2·830		0·613		4·524		2·439		...		...		...		2·373		1·817	

XX.—NATIVES.

Mysore Division	8,313	5	2	3,106	10	21	1	119	2	93	5	45	4	474	1	350	...	100	6	4,313	31	7,025	57
Per centage of Treated to Strength		0·060		37·363		0·252		1·431		1·118		0·541		5·701		4·210		1·202		51·882		84·506	
Ditto of Deaths to do.		0·024		0·120		0·012		0·024		0·060		0·048		0·013		...		0·072		0·372		0·685	
Ditto do. to Treated		40·000		0·321		4·761		1·680		5·376		8·888		0·210		...		6·000		0·718		0·811	

TABLE *Exhibiting the Admissions and Deaths from Nine Principal Diseases for Five Years, from* 1842 *to* 1846 *inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

XXI.—EUROPEANS.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Malabar and Canara	4,843	26	13	396	7	419	20	508	5	978	71	37	10	331	1	932	1	11	3	3,638	131	7,815	150
Per centage of Treated to Strength		0·536		8·176		8·651		10·489		20·194		0·763		6·834		19·244		0·227		76·118		161·986	
Ditto of Deaths to do.		0·368		0·144		0·412		0·103		1·466		0·206		0·020		0·020		0·061		2·704		3·097	
Ditto do. to Treated		50·000		1·767		4·773		0·984		7·259		27·027		0·302		0·107		27·272		8·600		1·912	

XXII.—NATIVES.

Malabar and Canara	18,935	38	12	2,474	34	51	6	355	10	230	6	123	10	1,083	5	510	3	77	12	4,941	98	10,734	153
Per centage of Treated to Strength		0·200		13·165		0·269		1·874		1·214		0·649		5·719		2·693		0·406		26·094		56·688	
Ditto of Deaths to do.		0·163		0·179		0·031		0·052		0·031		0·052		0·026		0·015		0·063		0·517		0·808	
Ditto do. to Treated		51·578		1·374		11·764		2·816		2·608		8·130		0·461		0·588		15·584		1·983		1·425	

For the Year 1847.

XXIII.—EUROPEANS.

Malabar and Canara	1,110	...	...	87	1	146	2	169	...	179	19	27	8	195	2	289	...	2	...	1,694	32	2,184	37
Per centage of Treated to Strength		...		7·837		13·153		15,225		16·126		2·432		17·567		26·036		0·180		98·558		196·756	
Ditto of Deaths to do.		...		0·090		0·180		...		1·711		0·720		0·180		...		...		2·882		3·333	
Ditto do. to Treated		...		1·149		1·369		...		10·614		29·629		1·025		...		...		2·925		1·694	

XXIV.—NATIVES.

Malabar and Canara	3,648	...	...	554	10	7	1	83	4	51	3	22	1	225	2	163	1	37	6	1,142	28	2,251	39
Per centage of Treated to Strength		...		15·186		0·191		2·275		1·398		0·603		6·169		4·468		1·014		31·304		61·705	
Ditto of Deaths to do.		...		0·274		0·027		0·109		0·082		0·027		0·054		0·027		0·164		0·767		1·069	
Ditto do. to Treated		...		1·805		14·285		4·819		5·882		4·545		0·888		0·613		16·216		2·451		1·732	

CEDED DISTRICTS.

TABLE *Exhibiting the Admissions and Deaths from Nine Principal Diseases for Five Years, from 1842 to 1846 inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

XXV.—EUROPEANS.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Ceded Districts	3,558	378	167	1,419	4	298	6	220	2	354	17	61	4	411	...	1,073	1	10	2	4,224	193	5,883	212
Per centage of Treated to Strength		10·623		39·881		8·375		6·183		9·949		1·714		11·551		30·157		0·281		118·718		165·345	
Ditto of Deaths to do.		4·412		0·112		0·168		0·056		0·477		0·112		...		0·028		0·056		5·424		5·958	
Ditto do. to Treated		41·534		0·281		2·013		0·909		4·802		6·557		...		0·093		20·000		4·569		3·603	
XXVI.—NATIVES.																							
Ceded Districts	24,057	899	388	6,199	58	32	3	377	16	271	17	88	10	2,925	21	928	3	175	34	11,064	550	17,461	598
Per centage of Treated to Strength		3·736		25·767		0·138		1·567		1·126		0·365		8·708		3·857		0·727		45·990		72·581	
Ditto of Deaths to do.		1·612		0·241		0·012		0·066		0·070		0·041		0·087		0·012		0·141		2·286		2·485	
Ditto do. to Treated		43·159		0·935		9·375		4·244		6·270		11·363		1·002		0·223		19·428		4·971		3·424	

For the Year 1847.

XXVII.—EUROPEANS.

Ceded Districts	989	...	...	195	1	114	6	157	2	61	1	21	1	106	...	577	...	2	...	1,233	11	1,997	12
Per centage of Treated to Strength		...		19·716		11·526		15·874		6·167		2·123		10·717		58·341		0·202		124·671		201·921	
Ditto of Deaths to do.		...		0·101		0·606		0·203		0·101		0·101		...		...		...		1·112		1·213	
Ditto do. to Treated		...		0·513		5·263		1·273		1·639		4·761		...		...		...		0·892		0·600	
XXVIII.—NATIVES.																							
Ceded Districts	4,661	5	...	1,812	24	2	2	60	1	46	2	10	...	375	...	201	...	38	8	2,544	27	3,735	42
Per centage of Treated to Strength		0·107		38·873		0·042		1·287		0·986		0·214		8·045		4·312		0·708		54·580		80·133	
Ditto of Deaths to do.		...		0·300		0·042		0·021		0·042		...		...		...		0·171		0·579		0·901	
Ditto do. to Treated		...		0·772		100·000		1·666		4·347		...		...		...		2·424		1·061		1·124	

Hyderabad Subsidiary Force.

Table *Exhibiting the Admissions and Deaths from Nine Principal Diseases for Five Years, from* 1842 *to* 1846 *inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

XXIX.—EUROPEANS.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Hyderabad Subsidiary	6,800	97	46	2,243	30	773	49	923	17	1,855	171	149	9	702	5	1,952	5	19	6	8,713	338	13,075	385
Per centage of Treated to Strength		1·426		32·985		11·367		13·573		27·279		2·191		10·323		28·705		0·279		128·132		192·279	
Ditto of Deaths to do.		0·678		0·441		0·720		0·250		2·514		0·132		0·073		0·073		0·088		4·970		5·661	
Ditto do. to Treated		47·423		1·337		6·338		1·841		9·218		6·040		0·712		0·256		31·578		3·879		2·944	

XXX.—NATIVES.

Hyderabad Subsidiary	47,935	1,969	804	15,452	104	88	9	868	21	630	31	203	23	2,676	17	1,463	6	90	15	23,439	1,030	34,819	1,148
Per centage of Treated to Strength		4·107		32·235		0·183		1·810		1·314		0·423		5·582		3·052		0·187		48·897		72·637	
Ditto of Deaths to do.		1·677		0·216		0·018		0·043		0·064		0·047		0·035		0·012		0·031		2·148		2·394	
Ditto do. to Treated		40·832		0·673		10·227		2·419		4·920		11·330		0·635		0·410		16·666		4·394		3·297	

For the Year 1847.

XXXI.—EUROPEANS.

Hyderabad Subsidiary	1,343	1	1	570	4	72	8	250	2	191	14	18	6	82	...	533	1	...	...	1,717	36	2,221	44
Per centage of Treated to Strength		0·074		42·442		5·361		18·615		14·221		1·340		6·105		39·687		...		127·848		165·376	
Ditto of Deaths to do.		0·074		0·297		0·595		0·148		1·042		0·446		...		0·074		...		2·680		3·276	
Ditto do. to Treated		100·000		0·701		11·111		0·800		7·329		33·333		...		0·187		...		2·096		1 981	

XXXII.—NATIVES.

Hyderabad Subsidiary	8,895½	63	15	2,030	20	8	1	79	5	79	3	25	6	375	1	273	1	19	1	2,951	55	4,660	,68
Per centage of Treated to Strength		0·708		22·820		0·089		0·888		0·888		0·281		4·215		3·068		0·213		33·174		52·386	
Ditto of Deaths to do.		0·168		0·224		0·011		0·056		0·033		0·067		0·011		0·011		0·033		0·618		0·764	
Ditto do. to Treated		23·809		0·985		12·500		6·329		3·797		24·000		0·266		0·366		15·789		1·863		1·459	

XXXIII.—Statement *Showing the Prevailing Diseases of Her Majesty's 84th Regiment, 1st Battalion, and C Troop, Horse Artillery, for* 1847.

European Troops.

Corps.	Average Strength.	Remained.	Admitted.	Discharged.	Died.	Remaining.	Cholera.	Dysentery.	Fever.	Hepatic Diseases.	Disease of the Eye.	Rheumatism.	Venereal.	Other Complaints.	Average proportion of Sick in Hospital to numerical Strength, per cent.	Proportion of Deaths to the total Sick Treated, per cent.
Her Majesty's 84th Regiment	1,052	100	1,749	1,743	37	69	1	130	432	44	37	65	486	554	166¼	2·0
1st Battalion Artillery	146	17	212	216	6	7	...	20	43	18	1	6	20	104	145½	2·62
C Troop Horse Artillery	102	7	153	152	1	7	...	1	74	3	3	6	18	48	150⅞	0·62

XXXIV.—Table *Showing the Principal Diseases of the Nagpore Force for Five Years.*

	Europeans.										Natives.									
Average of Strength	1,238		1,315		1,304		1,331		358		6,816		6,420		6,176		5,951		5,793	
Years	1843.		1844.		1845.		1846.		1847.		1843.		1844.		1845.		1846.		1847.	
Diseases.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
Fevers	680	13	902	22	751	21	975	12	221	...	1,073	16	1,717	15	864	14	1,704	23	1,269	10
Hepatitis	67	3	88	1	102	4	111	8	18	...	3	...	6	1	10	2	10	...	7	1
Rheumatism	151	3	133	...	134	...	158	3	37	...	172	4	291	2	211	3	198	2	208	6
Dysentery	141	7	123	6	207	18	203	6	32	4	50	1	59	...	77	3	60	3	22	1
Cholera	2	1	1	1	11	6	32	17	...	...	31	16	19	9	153	46	244	101	...	...
Diarrhœa	181	4	258	9	172	11	118	...	39	...	78	1	55	1	64	3	64	2	22	2
Syphilis	352	2	368	...	109	1	371	1	24	...	374	...	342	2	85	3	176	1	119	...
Total	1,474	33	1,873	39	1,487	59	1,968	47	374	4	1,781	38	2,489	30	1,404	74	2,456	132	1,647	20

Nagpore Subsidiary Force.

TABLE *Exhibiting the Admissions and Deaths from Nine Principal Diseases for Five Years, from* 1842 *to* 1846 *inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

XXXV.—EUROPEANS.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Nagpore Subsidiary	5,394	58	31	3,515	70	421	17	819	24	760	40	66	3	667	6	885	4	20	4	7,211	199	10,558	949
Per centage of Treated to Strength		1·075		65·164		7·804		15·183		14·089		1·223		12·365		16·407		0·370		133·685		195·736	
Ditto of Deaths to do.		0·574		1·297		0·315		0·444		0·741		0·055		0·111		0·074		0·074		3·689		4·616	
Ditto do. to Treated		53·448		1·991		4·038		2·930		5·263		4·545		0·899		0·451		20·000		2·759		2·358	

XXXVI.—NATIVES.

Nagpore Subsidiary	33,105	541	222	7,770	100	38	7	422	10	299	7	70	13	1,276	17	820	6	135	32	11,371	414	18,058	507
Per centage of Treated to Strength		1·634		23·470		0·114		1·274		0·903		0·211		3·854		2·476		0·407		34·348		54·547	
Ditto of Deaths to do.		0·670		0·302		0·021		0·030		0·021		0·039		0·051		0·018		0·096		1·250		1·531	
Ditto do. to Treated		41·035		1·287		18·421		2·369		2·341		18·715		1·332		0·731		23·703		3·640		2·807	

For the Year 1847.

XXXVII.—EUROPEANS.

Nagpore Subsidiary	307	...	...	230	...	18	...	39	...	40	4	6	...	41	...	57	...	3	...	434	4	607	5
Per centage of Treated to Strength		...		74·918		5·863		12·703		13 029		1·954		13·355		18·566		0·977		141·368		197·719	
Ditto of Deaths to do.		...		...		...		...		1·302		...		...		...		...		1·302		1·628	
Ditto do. to Treated		...		...		...		...		...		...		...		...		...		0 921		0·823	

XXXVIII.—NATIVES.

Nagpore Subsidiary	5,726½	...	...	1,281	10	8	1	22	2	22	1	15	3	216	6	180	...	28	10	1,772	33	2,888	42
Per centage of Treated to Strength		...		22·368		0·139		0·384		0·384		0·261		3·771		3·143		0·488		30·942		50·429	
Ditto of Deaths to do.		...		0·174		0·017		0·034		0·017		0·053		0·104		...		0·174		0·576		0·733	
Ditto do. to Treated		...		0·780		12·500		9·090		4·545		20·000		2·777		...		35·714		1·863		1·454	

Tenasserim Provinces.

Table *Exhibiting the Admissions and Deaths from Nine Principal Diseases for Five Years, from 1842 to 1846 inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
XXXIX.—EUROPEANS.																							
Tenasserim Provinces	4,290	47	20	1,439	12	242	9	667	9	659	43	413	13	237	2	230	...	11	3	3,945	111	6,455	121
Per centage of Treated to Strength		1·095		33·543		5·641		15·547		15·361		9·627		5·524		5·361		0·256		91·958		150·466	
Ditto of Deaths to do.		0·466		0·279		0·209		0·209		1·002		0·303		0·046		...		0·069		2·587		2·820	
Ditto do. to Treated		42·553		0·833		3·719		1·349		6·525		3·147		0·843		...		27·272		2·813		1·874	
XL.—NATIVES.																							
Tenasserim Provinces	14,984	56	28	2,407	39	18	...	664	37	204	13	155	12	1,091	22	497	6	139	34	5,231	191	6,999	281
Per centage of Treated to Strength		0·373		16·063		0·120		4·431		1·361		1·034		7·281		3·316		0·927		34·910		64·729	
Ditto of Deaths to do.		0·186		0·600		...		0·216		0·086		0·080		0·146		0·040		0·226		1·274		1·875	
Ditto do. to Treated		50·000		1·620		...		5·573		6·372		7·741		2·016		1·207		24·460		3·650		2·897	
***For the Year* 1847.**																							
XLI.—EUROPEANS.																							
Tenasserim Provinces	100	...	...	18	...	3	...	6	...	6	...	2	...	6	...	4	...	...	...	45	...	106	...
Per centage of Treated to Strength		...		18,000		3·000		6·000		6·000		2·000		6·000		4·000		...		45·000		106·000	
Ditto of Deaths to do.		...		...		...		...		...		...		...		...		...		...		...	
Ditto do. to do.		...		...		...		...		...		...		...		...		...		...		...	
XLII.—NATIVES.																							
Tenasserim Provinces	1,741½	...	...	373	1	1	...	45	1	17	...	4	1	126	...	68	...	33	4	667	7	1,184	9
Per centage of Treated to Strength		...		21·418		0·574		2·583		0·976		0·229		7·235		3·904		1·894		38·300		67·987	
Ditto of Deaths to do.		...		0·574		...		0·574		...		0·574		...		...		0·229		0·401		0·516	
Ditto do. to Treated		...		0·268		...		2·222		...		25·000		...		...		12·121		1·049		0·760	

China.

XLIII.—Table *Exhibiting the Admissions and Deaths from Nine Principal Diseases for Five Years, from 1842 to 1846 inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated	Died.	Treated.	Died.
China*	10,347	52	15	10,653	214	28	4	2,717	305	781	106	138	20	1,312	36	483	8	232	47	16,296	755	23,395	925
Per centage of Treated to Strength		0·502		102·957		0·270		26·258		7·548		1·333		11·713		4·668		2·242		157·494		226·133	
Ditto of Deaths to do.		0·144		2·068		0·038		2·947		1·024		0·193		0·347		0·077		0·454		7·296		8·939	
Ditto do. to Treated		28·846		2·008		14·285		11·225		13·573		14·492		2·970		1·656		3·017		4·633		3·953	

* There is not any return of Europeans.

XLIV.—*For the Year* 1847.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
China	888	...	...	590	24	1	...	195	14	82	7	9	1	93	2	63	...	89	11	1,122	59	1,408	68
Per centage of Treated to Strength		...		66·444		0·112		21·959		9·234		1·013		10·472		7·094		10·022		126·351		158·558	
Ditto of Deaths to do.		...		2·702		...		1·576		0·787		0·112		0·225		...		1·238		6·444		7·659	
Ditto do. to Treated		...		4·069		...		7·179		8·536		11·111		2·150		...		12·359		5·258		4·829	

TABLE *Exhibiting the Admissions and Deaths from Nine Principal Diseases for Five Years, from* 1842 *to* 1846 *inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

XLV.—EUROPEANS.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Aden	1,339	25	19	503	6	49	6	268	2	57	9	17	6	73	1	154	1	3	2	1,149	52	2,074	77
Per centage of Treated to Strength		1·869		37·565		3·659		20·014		4·256		1·269		5·451		11·501		0·224		85·810		154·891	
Ditto of Deaths to do.		1·418		0·448		0·448		0·149		0·672		0·448		0·074		0·074		0·149		3·883		5·750	
Ditto do. to Treated		76·000		1·192		12·244		0·746		15·789		35·294		1·369		0·649		66·666		4·525		3·712	

XLVI.—NATIVES.

Aden	4,187	8	5	464	7	18	...	25	...	27	1	53	3	459	22	144	3	69	13	1,258	54	2,840	90
Per centage of Treated to Strength		0·191		11·081		0·310		0·597		0·641		1·265		10,914		3·439		1·600		30·045		67·828	
Ditto of Deaths to do.		0·119		0·167		...		...		0·023		0·071		0·525		0·071		0·310		1·259		2·149	
Ditto do. to Treated		62·500		1·508		...		...		3·703		5·660		4·814		2·083		19·402		4·292		3·169	

For the Year 1847.

XLVII.—EUROPEANS.

Aden	112	...	...	22	...	2	...	22	...	5	...	4	...	12	...	15	...	...	...	82	...	131	1
Per centage of Treated to Strength		...		19·642		1·785		19·642		4·464		3·571		10·714		13·392		...		73·214		116·964	
Ditto of Deaths to do.		...		...		...		...		...		...		...		...		...		...		0·892	
Ditto do. to Treated		...		...		...		...		...		...		...		...		...		...		0·763	

XLVIII.—NATIVES.

Aden	1,494	73	25	389	4	1	...	67	3	24	2	6	...	156	10	41	...	18	6	775	50	1,566	68
Per centage of Treated to Strength		4·886		26·037		0·066		4·484		1·606		0·401		10·441		2·744		1·204		51·894		104·819	
Ditto of Deaths to do.		1·673		0·267		...		0·200		0·133		...		0·669		...		0·401		3·346		4·551	
Ditto do. to Treated		34·246		1·028		...		4·477		8·333		...		6·410		...		33·333		6·451		4·342	

XLIX.—TABLE *Exhibiting the Admissions and Deaths of Native Troops from Nine Principal Diseases for the Year* 1846; *also the Total Admissions and Deaths from all Diseases, &c.*

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Saugor and Nurbudda Territories ...	4,582	29	8	2,423	15	2	...	51	...	37	1	9	2	280	...	114	...	7	1	2,952	27	4,175	38
Per centage of Treated to Strength		0·632		52·880		0·043		1·113		0·807		0·196		6·110		2·487		0·152		64·426		91·117	
Ditto of Deaths to do.		0·174		0·327		...		...		0·027		0·043		...		...		0·021		0·589		0·829	
Ditto do. to Treated		27·586		0·619		...		...		2·702		22·222		...		...		14·285		0·914		0·910	

L.—*For the Year* 1847.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Saugor and Nurbudda Territories ...	4,272	...	...	1,987	9	1	...	35	...	39	2	16	2	308	...	206	1	11	3	2,603	17	3,660	25
Per centage of Treated to Strength		...		46·512		0·023		0·819		0·913		0·374		7·209		4·822		0·257		60·931		85·674	
Ditto of Deaths to do.		...		0·210		...		...		0·046		0·046		...		0·023		0·070		0·397		0·585	
Ditto do. to Treated		...		0·452		...		...		5·128		12·500		...		0·485		27·272		0·653		0·683	

LI.—TABLE *Exhibiting the Admissions and Deaths from Nine Principal Diseases for Five Years, from* 1842 *to* 1846 *inclusive; also the Total Admissions and Deaths from all Diseases, &c.*

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Southern Mahratta Country.....	41,962	1,093	457	9,992	107	63	5	984	36	633	35	145	15	3,312	26	1,165	7	120	18	17,507	706	30,487	813
Per centage of Treated to Strength		2·604		23·812		0·150		2·344		1·508		0·345		7·892		2·776		0·285		41·720		72·653	
Ditto of Deaths to do.		1·089		0·254		0·011		0·085		0·083		0·345		0·061		0·016		0·042		1·682		1·937	
Ditto do. to Treated		41·811		1·070		7·936		3·658		5·529		10·344		0·785		0·600		15·000		4·032		2·666	

LII.—*For the Year* 1847.

	Strength.	Cholera.		Fever.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.		Total of preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Southern Mahratta Country.....	1,009	...	...	134	...	...	...	4	...	25	2	5	...	194	1	48	...	8	...	418	3	536	4
Per centage of Treated to Strength		...		13·280		...		0·396		2·477		0·495		19·226		4·757		0·792		41·427		53·121	
Ditto of Deaths to do.		...		...		...		...		0·198		...		0·099		...		...		0·297		0·396	
Ditto do. to Treated		...		...		...		...		8·000		...		0·515		...		...		0·717		0·746	

LIII.—*Absolute Number of Cases of the Chief Diseases and Per Centage to Strength, from* 1842 *to* 1846 *inclusive.*

	Europeans.		Natives.		Absolute Number of Cases of																	
					Cholera.		Fevers.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.	
	Strength.	Total Deaths.	Strength.	Total Deaths.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.
Presidency Division	7,395	189	23,093	500	87	484	1,459	3,320	537	30	628	436	661	202	100	90	772	1,161	1,042	588	28	142
Centre Division	11,088	470	31,783	711	278	535	1,595	4,088	579	27	1,124	799	1,225	339	205	225	975	2,067	1,615	738	46	238
Southern Division	4,453	165	33,477	1,034	115	1,664	2,052	8,436	333	52	934	749	431	453	59	181	378	2,068	822	720	7	107
Northern Division	797	48	41,348	874	3	824	37	11,770	21	32	31	438	28	370	40	412	60	4,089	28	2,166	10	978
Mysore Division	9,261	218	33,937	879	127	1,351	1,233	5,813	663	60	391	660	1,704	303	105	179	609	1,691	2,468	800	12	108
Malabar and Canara	4,843	150	18,935	153	26	38	396	2,474	419	51	508	355	978	203	37	123	331	1,083	932	518	11	77
Ceded Districts	3,558	212	24,057	598	378	899	1,419	6,199	298	32	220	377	354	271	61	88	411	2,925	1,073	928	10	175
Hyderabad Force	6,800	385	47,935	1,148	97	1,969	2,243	15,452	773	88	923	863	1,855	630	149	203	702	2,676	1,952	1,463	19	90
Nagpore Force	5,394	249	83,105	507	58	541	3,515	7,770	421	38	819	422	760	999	66	70	667	1,276	885	820	20	135
Tenasserim Provinces	4,290	121	14,984	281	47	56	1,439	2,407	242	18	667	664	659	204	413	155	237	1,091	230	497	11	139
Aden	1,339	77	4,187	90	25	8	503	464	49	13	268	25	57	27	17	53	73	459	154	144	3	69
China	..	..	10,347	925	..	52	..	10,653	..	28	..	2,717	..	781	..	138	..	1,212	..	483	..	132
Saugor	..	..	4,582	38	..	29	..	242	..	2	..	51	..	37	..	9	..	280	..	114	..	7
Southern Mahratta Country	..	..	41,962	813	..	1,093	..	9,992	..	63	..	984	..	633	..	145	..	3,312	..	1,165	..	120
Total	59,218	2,284	363,726	8,551	1,241	9,543	15,891	89,080	4,335	534	1,513	9,540	8,112	5,452	1,252	2,071	5,275	25,390	11,201	11,144	177	2,617
Deaths per cent.	3·856*		2·076*		2·095	2·623	26·834	24·491	7·319	0·146	11·000	2·623	13·698	1·499	2·144	0·569	8·907	6·980	18·914	3·063	0·298	0·719

* Deaths per cent.

LIII*.—*Absolute Number of Deaths in the Chief Diseases and Per Centage to Strength, from 1842 to 1846 inclusive.*

	Absolute Number of Deaths in																	
	Cholera.		Fevers.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.	
	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.
Presidency Division	49	213	9	55	13	8	9	45	40	14	14	4	3	18	1	5	2	20
Centre Division	165	237	23	83	19	1	38	62	67	34	24	36	10	32	10	14	10	54
Southern Division	63	750	35	75	9	9	5	22	22	34	3	20	..	9	1	6	2	23
Northern Division	2	355	1	145	1	2	6	13	4	28	6	35	2	48	1	14	2	102
Mysore Division	44	597	13	81	22	7	8	22	64	15	13	19	3	16	4	6	2	17
Malabar and Canara	13	12	7	34	20	6	5	10	71	6	10	10	1	5	1	3	3	12
Ceded Districts	157	388	4	58	6	3	2	16	17	17	4	10	..	21	1	3	2	34
Hyderabad Force	46	804	30	104	49	9	17	21	171	31	9	23	5	17	5	6	6	15
Nagpore Force	31	222	70	100	17	7	24	10	40	7	3	13	6	17	4	6	4	32
Tenasserim Provinces	20	28	12	30	9	..	9	37	43	13	13	12	2	22	..	6	3	34
Aden	19	5	6	7	6	..	2	..	9	7	6	3	1	22	1	3	2	13
China	..	15	..	214	..	4	..	305	..	106	..	20	..	36	..	6	..	47
Saugor	..	3	..	15	..	..	..	..	..	1	..	2	..	..	..	..	..	1
Southern Mahratta Country	..	57	..	107	..	5	..	36	..	35	..	15	..	26	..	7	..	18
Total	609	3,681	210	1,117	171	61	125	599	548	342	105	222	33	289	29	87	38	422
Per centage loss—Deaths	1·028	1·012	0·354	0·307	0·288	0·016	0·211	0·162	0·925	0·094	0·177	0·060	0·055	0·079	0·049	0·023	0·064	0·116
Per centage of Cases	2·095	2·623	26·834	24·491	7·319	0·146	11·000	2·623	13·698	1·499	2·114	0·569	8·907	6·980	18·914	3·063	0·298	0·719

MADRAS ARMY.

LIV.—*Absolute Number of Deaths and Per Centage to Strength for the Year 1847, together with Deaths for Nine Principal Diseases.*

EUROPEANS AND NATIVES.

	Strength.*		Deaths.		Absolute Number of Deaths from																	
					Cholera.		Fevers.		Liver.		Diarrhœa.		Dysentery.		Thoracia.		Rheumatism.		Venereal.		Dropsy.	
	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.	Europeans.	Natives.
Presidency Division	1,338	4,342	41	71	2	11	4	9	7	2	2	9	7	1	5	3	..	3	..	..	..	6
Centre Division	2,943	6,288	124	85	..	6	9	9	13	3	4	5	56	..	5	3	2	5	3	1	1	15
Southern Division	1,027	5,746	13	87	..	18	3	8	1	1	1	6	5	5	..	5	..	2	..	1	..	5
Northern Division	168	9,991	6	194	..	1	1	78	..	2	2	8	..	30	1	11	..	9	..	2	..	17
Mysore Division	1,866	8,313	49	57	19	2	5	10	3	1	1	2	10	5	1	4	..	1	..	..	..	6
Malabar and Canara	1,110	3,648	37	39	..	..	1	10	2	1	..	4	19	3	8	1	2	2	..	1	..	6
Ceded Districts	989	4,661	12	42	..	..	1	24	6	2	2	1	1	2	1	..	..	..	..	..	..	8
Hyderabad Force	1,343	8,895	44	68	1	15	4	20	8	1	2	5	14	3	6	6	..	1	1	1	..	1
Nagpore Force	307	5,727	5	42	..	..	..	10	..	1	..	2	4	1	..	3	..	6	..	..	..	10
Tenasserim Provinces	100	1,741	..	9	..	..	..	1	..	..	..	1	..	..	..	1	..	..	..	..	..	4
Aden	112	1,494	1	68	..	25	..	4	..	..	..	3	..	2	..	..	..	10	..	..	..	6
China	..	888	..	68	..	..	..	24	..	..	..	14	..	7	..	1	..	2	..	..	..	11
Saugor	..	4,372	..	25	..	..	..	9	..	..	..	..	..	2	..	2	..	..	..	1	..	3
Southern Mahratta Country	..	1,009	..	4	..	..	..	..	..	..	..	..	..	2	..	..	..	1	..	..	..	..
Totals	11,303	67,015	332	859	22	78	28	216	40	14	14	60	116	63	27	40	4	42	4	7	1	98
Deaths per Cent.	..	..	2·937	1·282	0·194	0·116	0·248	0·324	0·354	0·021	0·122	0·081	1·026	0·094	0·239	0·059	0·035	0·062	0·035	0·010	0·009	0·146

Summary of Deaths per Cent. from Nine Principal Diseases for Five Years, from 1842 to 1846 inclusive.

LV.—EUROPEANS.

	Strength of Troops.	Per Cent. Died.										
		Cholera.	Fevers.	Liver.	Diarrhœa.	Dysentery.	Thoracia.	Rheumatism.	Venereal.	Dropsy.	Of Nine Diseases.	All Diseases.
Presidency Division	7,395	0·662	0·121	0·175	0·121	0·540	0·189	0·040	0·013	0·027	1·893	2·555
Centre Division	11,088	1·488	0·207	0·171	0·342	0·604	0·216	0·090	0·090	0·090	3·300	4·238
Southern Division	4,453	1·414	0·785	0·067	0·112	0·494	0·067	...	0·022	0·044	3·143	3·705
Northern Division	797	0·250	0·125	0·125	0·752	0·501	0·752	0·250	0·125	0·250	3·136	6·022
Mysore Division	9,261	0·475	0·140	0·345	0·086	0·691	0·140	0·032	0·043	0·021	1·976	2·353
Malabar and Canara Division	4,843	0·368	0·144	0·412	0·103	1·466	0·206	0·020	0·020	0·061	2·704	3·097
Ceded Districts	3,558	4·412	0·112	0·168	0·056	0·477	0·112	...	0·028	0·056	5·424	5·958
Hyderabad Subsidiary Force	6,800	0·676	0·441	0·720	0·250	2·514	0·132	0·073	0·073	0·088	4·970	5·661
Nagpore Subsidiary Force	5,394	0·574	1·297	0·315	0·444	0·741	0·055	0·111	0·074	0·074	3·689	4·616
Tenasserim Provinces	4,290	0·466	0·279	0·209	0·209	1·002	0·303	0·046	...	0·069	2·587	2·820
Aden	1,339	1·418	0·448	0·448	0·149	0·672	0·448	0·074	0·074	0·149	3·883	5·750

LVI.—NATIVES.

	Strength of Troops.	Per Cent. Died.										
		Cholera.	Fevers.	Liver.	Diarrhœa.	Dysentery.	Thoracia.	Rheumatism.	Venereal.	Dropsy.	Of Nine Diseases.	All Diseases.
Presidency Division	23,093	0·922	0·238	0·034	0·194	0·060	0·017	0·077	0·021	0·086	1·654	2·165
Centre Division	31,783	0·745	0·261	0·003	0·195	0·106	0·113	0·100	0·044	0·169	1·739	2·237
outhern Division	33,477	2·240	0·224	0·026	0·065	0·101	0·059	0·026	0·017	0·068	2·831	3·088
Northern Division	41,348	0·858	0·350	0·004	0·031	0·069	0·084	0·116	0·033	0·246	1·794	2·113
Mysore Division	33,937	1·7[illegible]	0·239	0·020	0·065	0·044	0·056	0·047	0·017	0·050	2·275	2·591
Malabar and Canara	18,935	0·163	0·179	0·031	0·052	0·031	0·052	0·026	0·015	0·063	0·517	0·808
Ceded Districts	24,057	1·612	0·241	0·012	0·066	0·070	0·041	0·087	0·012	0·141	2·286	2·485
Hyderabad Force	47,935	1·677	0·216	0·018	0·043	0·064	0·047	0·035	0·013	0·031	2·148	2·394
Nagpore Force	33,105	0·670	0·302	0·021	0·030	0·021	0·039	0·051	0·018	0·096	1·250	1·531
Tenasserim Provinces	14,984	0·186	0·600	...	0·246	0·086	0·080	0·146	0·040	0·226	1·274	1·875
Aden	4,181	0·119	0·167	...	...	0·023	0·071	0·525	0·071	0·310	1·229	2·149
China	10,347	0·144	2·068	0·038	2·947	1·024	0·193	0·347	0·077	0·454	7 296	8·939
Saugor	4,582	0·174	0·327	...	...	0·021	0·043	...	...	0·021	0·589	0·829
Southern Mahratta Country	41,962	1·089	0·254	0·011	0·085	0·083	0·345	0·061	0·016	0·042	1·682	4·937

From the preceding tables it is seen that, for the five years, from 1842 to 1846, inclusive, the strength of the Europeans ranged from 797 in the Northern Division to 11,088 in the Centre Division; and the deaths from 48 in the former to 470 in the latter. For the year 1847 the strength ranged from 100 in the Tenasserim Provinces to 2,943 in the Centre Division; and, in regard to deaths, the 100 Europeans in the Tenasserim Provinces exhibited the singular fact of not having lost a single man, while 124 died in the Centre Division. The strength of the Native troops, for the five years, ranged from 4,187 at Aden to 47,935 at Hyderabad; and the deaths at any one station ranged from 38 at Saugor to 1,148 at Hyderabad, there being 4,582 men at Saugor, while the 4,187 at Aden lost 90 men. For the year 1847, the strength of the Native troops ranged from 1,009 men in the Southern Mahratta country to 9,991 men in the Northern Division; the deaths ranged from 4 men out of the 1,009 in the Southern Mahratta country to 194 in the Northern Division. The per centage of deaths (2,284) amongst the total Europeans (59,218), for the five

years, was 3·856 per cent.*, being almost identical with the average mortality of the preceding twenty years: namely, 3·846 per cent. The per centage of deaths (8,551) amongst the Native troops (363,726) was 2·076 per cent., singularly approximating to the mortality of the preceding twenty years, viz., 2·095 per cent. For the year 1847, the deaths amongst 11,303 Europeans was as low as 2·937 per cent.; but, in the years 1835, 1836, 1838, 1839, 1841, 1843, and 1844, it had been even lower; in 1835 and 1838 scarcely exceeding 2 per cent., including Cholera; a healthiness rivalling that of a branch of the royal troops in England, viz., the Foot Guards, the mortality of which was represented at one time to be 2·16 per cent. Preliminary to entering on the influences of the chief diseases, some mention is necessary of the total amount of cases of diseases; in other words, the rate at which men are received into hospital for treatment; and in this matter a marked contrast exists between Europeans and Natives. The receptions into hospital amongst Europeans ranged from 147·7 per cent. in 1844, to 174·3 per cent. of strength in 1843. Amongst the Native troops, the receptions into hospital ranged from 66·6 per cent. in 1845, to 76·6 per cent. in 1846. For the year 1847, the cases of Europeans treated were 156·575 per cent., and of Native troops 77·64 per cent. of the strength. These numbers can only be approximations to the truth, as the same man may go several times into hospital during the year, and be counted in the returns as several men; but under any circumstances the contrast of the susceptibilities of Europeans to attacks of disease as compared with Natives is very marked. The intensity of the chief diseases in their final results indicates, that both Europeans and Natives suffer most, *in number of cases*, from fevers; the Europeans at the rate of 26·834 per cent., and the Native troops at the rate of 24·491 per cent.; but the mortality was in very different ratios at the different stations. For instance, in the Nagpore subsidiary force, the Europeans lost from fever, in the five years, 1·297 per cent., but their strength in 1847 being reduced to 307 men, they had no death by fever. At no other station did the deaths by fevers amount to a half per cent. with the exception of the Southern Division, where they amounted to 0·785 per cent. The Madras Native troops at no station lost more than one-third per cent. from fever, while in China they amounted to 2·068 per cent., and for the year 1847 to 2·602 per cent.

Next in intensity to fevers comes venereal, the Cases of which, amongst Europeans for the five years, amount to 18·914 per cent.; but the mortality from this loathsome disease, although 29 in number, never amounted to one in a thousand of the strength, except in the Northern Division, where it amounted to 1 in 797, and in the Centre Division to 1 in 1,108. In the year 1847, in the Ceded Districts, the *cases* of venereal exceeded 58 per cent. of the strength: at Hyderabad, it amounted to 39 per cent., and in the Mysore Division to 40 per cent., of the strength. Amongst the Native troops, as might be expected from the majority of the men having their families with them, the Cases of venereal amounted only to 3·063 per cent. of the strength; and the mortality per cent., at the different stations, ranged only

* As mistakes are sometimes made by inexperienced arithmeticians, I may point out, that had this average mortality been struck from taking the average of the cumulated averages of the separate divisions, the mortality would be 4·252 per cent., instead of 3·856, and the loss of the Native troops 2·510 per cent., instead of 2·076 per cent.

amongst the second place of decimals. The disease next in frequency to venereal is dysentery, amounting amongst Europeans to 13·698 per cent. of strength, but amongst the Native troops to only 1·499 per cent. The mortality from dysentery ranged from 2·514 per cent. in the Hyderabad subsidiary force, 1·466 per cent. in the Malabar and Canara, and 1·002 per cent. in the Tenasserim provinces, to less than one half per cent. in the Southern Division. Amongst the Native troops, at no station did the mortality from dysentery amount to 1 in a 1,000 of the strength, except in China, where the mortality was 1·024 per cent. or 1 in 90; and in 1847 it was 0·787 per cent., but diarrhœa carried off 2·947 per cent., or 1 in about 34 men; and in 1847 the loss was 1·576 per cent. In the per centage number of cases amongst Europeans in India, diarrhœa follows dysentery 11 per cent., but natives are only subject to it in the ratio of 2·623 per cent., the deaths amount to little more than 1 in 500 among Europeans, and 1 in 607 natives. Rheumatism follows next in intensity, standing the fifth disease with Europeans, but second with the natives; the deaths with both, however, are only indicated by the second place of decimals per cent. The sixth disease in the per centage number of cases, but not in mortality as is generally supposed, is liver amongst the Europeans, the cases amounted to 7·319 per cent.; but the deaths at no one station to three-fourths per cent. of the strength,—at Hyderabad to 0·720 per cent., so that in its worst form there was not more than 1 death to 14 cases, or 1 death in 5 years amongst 139 men; and in the Southern Division the deaths from liver did not amount to more than 1 in 495 of the strength. At Hyderabad in 1847 the deaths from liver were 0·595 per cent.; but the average for all the Divisions for that year was only 1 death in every 282 men. With the Native troops, liver can scarcely be said to have a place; in five years amongst 363,726 men there were only 61 deaths, and the per centage of cases was only 0·146, and the deaths were *nil* at several stations. At the Presidency they amounted to only 0·034 per cent, and even in China did not exceed 0·038 per cent. of the strength, or 1 in 2,587 men. In the per centage number of CASES, diseases of the lungs stand seventh, and precede cholera amongst Europeans, but not so with natives. The Europeans had 2·114 per cent. of hospital cases of the lungs, or 1 in 48 men, but the deaths at only one station (the Northern Division) amounted to three-fourths per cent. (0·752); and at Nagpore they were as low as 1 in 1,798 of the strength (0·055), and for five years the deaths were only 1 in 564 men. Amongst the Native troops diseases of the lungs have almost as little influence as the liver complaint, amounting to 0·569 per cent. of cases in the 5 years, or 1 in 290 men; and the deaths at only one station exceeded 1 in 2,000 of the strength, and even at that station (the Centre Division) the deaths were only slightly more than 1 in 1,000 of the strength, the mean mortality for five years being 1 in 1,638 natives. China again shows its malign influence by 2 in 1,000 dying of thoracia. Cholera ranks as low as the eighth disease in the per centage of its *cases*, but in the per centage mortality to the number of cases treated, it stands first of all the diseases, although the loss is not high to the numbers exposed to its ravages. Amongst 59,218 Europeans there were 1,241 cases, or 1 in 48 men, and 609 deaths, or 1 in 97 men, so that the per centage of cases is 2·095, and the per centage of deaths 1·028; about one-half, therefore,

of those attacked died. In the Northern Division, in five years, there were only three cases, while in the Ceded Districts there were 378; the deaths ranged from one fourth per cent. in the Northern Division to 4·412, nearly 4½ per cent. in the Ceded Districts; and in the Centre and Southern Divisions, and at Aden, the deaths from cholera amounted to 1½ per cent. at each station. There were scarcely any cases of cholera at any of the stations of the army in the year 1847, and in eight divisions not a single death amongst Europeans; and yet it manifested its anomalous character by carrying off 19 Europeans out of 1866 in the Mysore Division, while it only killed 2 Natives out of 8313 of the strength in the same division. As a contrast to this, 25 Native soldiers were carried off at Aden in 1847, and not a single European. Similarly, in the Southern Division, 18 Natives died of cholera, and no European. The deaths from cholera in 1847 were 1 in 514 of strength of Europeans, and 1 in 869 of the Native soldiery. The per centage of cases of cholera for five years amongst the Native troops 2·623 per cent., or 2 in about 43 men, was rather greater than amongst the Europeans, but for the five years the per centage loss, 1·102, was somewhat less than that of Europeans; and the deaths at no station amounted to half the per centage of the deaths amongst Europeans in the Ceded Districts, while the Europeans lost 4·412 per cent., in the Ceded Districts, the Native troops (2405) lost only 1·612 per cent.; but, as a contrast to this, in the Southern Division the Native troops lost, in the five years, upon the total numbers, 2·240 per cent., and the Europeans lost only, in the same division, 1·414. The minimum loss to the Native troops was 0·144 per cent., at Aden, while the Europeans, at the same place, lost 1·418 per cent. The capricious action, therefore, of this extraordinary disease, defies all rational interpretation or explanation; and the intensity of the disease appears to have been double that of the preceding 20 years. The ninth disease in intensity, as far as relates to Europeans, is dropsy; but with the Native troops it precedes liver and thoracia, and stands, therefore, seventh. Amongst the 59,218 Europeans, there were only 177 cases; and the Natives, in 363,724 men, had 2,617 cases. The mortality which, amongst Europeans was only 1 in 1537 men, was amongst the Native troops 1 in 862 men.

From the above statements, it is shown that the intensity of the nine chief diseases, as indicated by the number of cases and the number of deaths, stands in a very different sequence amongst Europeans and Natives. Amongst Europeans and Natives the intensity, as indicated by CASES and DEATHS, stands in the following order:—

	Cases.		Deaths.	
	Europeans.	Natives.	Europeans.	Natives.
1	Fevers.	Fevers.	Cholera.	Cholera.
2	Venereal.	Rheumatism.	Dysentery.	Fevers.
3	Dysentery.	Venereal.	Fevers.	Diarrhœa.
4	Diarrhœa.	Diarrhœa.	Liver.	Dropsy.
5	Rheumatism.	Cholera.	Diarrhœa.	Dysentery.
6	Liver.	Dysentery.	Thoracia.	Rheumatism.
7	Thoracia.	Dropsy.	Dropsy.	Thoracia.
8	Cholera.	Thoracia.	Rheumatism.	Venereal.
9	Dropsy.	Liver.	Venereal.	Liver.

The only diseases, therefore, in which Europeans and Natives are equally sufferers, in numbers of CASES and DEATHS, are fevers and cholera; but though fevers stand at the head in number of cases, it is cholera that stands at the head in mortality. Liver, which is the sixth in the number of cases with Europeans, is the ninth in number of cases and mortality with the native troops; but though sixth in cases with Europeans, it stands fourth in mortality. Cholera with Europeans stands eighth in number of cases, but fifth with the Natives; and though it stands first in mortality with Europeans and Natives, a somewhat smaller proportion died of the natives attacked than of the Europeans. Dropsy stands fourth in deaths with Natives, but only seventh with Europeans. The order of the cases and deaths of the other diseases do not call for particular notice.

It remains to call attention to a table of experiments to determine the thermometric effect of the sun upon the soldier's head upon the line of march; to a table of the mortality amongst Europeans at different periods of their residence in India; and to extracts from interesting observations by some of the medical officers at the different stations.

The experiments to determine the heat to which the soldier's head is exposed on the line of march, were made at Nagpore.

The head gear of the different arms of the service was first exposed to the sun's rays without a white cover, subsequently with a white cover, and lastly with a wet rag inside the helmet, cap, &c., and the following were the results:—

NAGPORE SUBSIDIARY FORCE.

LVII.—*A series of Experiments, instituted at the request of Dr. Anderson, of the Artillery, to ascertain the advantage derived from the use of a White Cover worn in the Sun over the different Military Caps and Turbans, gave the following results:—*

In the shade, the use of the white cover reduced a thermometer, placed under the cap, two degrees.

In the sun, after half-an-hour's exposure—

	Without a White Cover.	With a White Cover.
	Thermometer.	Fahrenheit Thermometer.
Horse Artillery Helmet	117°	....
Foot Artillery Dress Cap	122°	....
Peaked Kilmarnock Bonnet	119°	113°
Sepoy's Glazed Turban	130°	111°
Experiment with a wet rag inside head gear:		
Horse Artillery Helmet	102°	....
Foot Artillery Dress Cap	114°	....
Peaked Kilmarnock Bonnet	108°	99°
Sepoy's Glazed Turban	106°	102°

The head in the helmet, therefore, with a wet rag inside corresponding to the natural perspiration, was exposed to 15° less heat, by the evaporation of the moisture than without this cooling process. The

heat under the Kilmarnock bonnet was reduced by the white cover which reflects the sun's rays off from a white surface, from 119° to 113°, but the evaporation from the wet rag inside reduced the heat to 99°, the temperature being thus lowered 20°. But the poor sepoy, with his glazed turban, appeared to be the greatest gainer; the heat of his head, 130°, without a white cover, being reduced by a white cover to 111°, and 102° by means of a wet rag within the white-covered turban. The practical application of two simple scientific principles, that of a white surface reflecting the sun's rays, and of evaporation reducing temperature, are here shown to be of considerable importance to the soldier.

The second subject to which attention is called is the value of life at different periods of residence in India. The table relating to the Europeans, under the Madras Government, is for a limited number only, and for a single year, and will necessarily not express normal conditions; but there are some features of interest in it; and I am enabled to add from a Bengal medical report a similar table for 16,180 Europeans for the years 1847-8:—

LVIII.—*Effect of Age and Length of Service in India upon the European Troops, for* 1847.

Period of Residence in India.	Strength.	Admissions.	Deaths.	Per Cent. of Admissions to Strength.	Per Cent. of Deaths to Strength.	Per Cent. of Deaths to Admissions.
Under 1 year	774	851	33	109·948	4·263	3·877
1 to 3 years....	339	840	4	247·787	1·180	0·476
3 to 5 ,, ...	455	746	6	163·956	1·318	0·804
5 to 7 ,, ...	768	1,195	18	155·598	2·343	1·506
7 to 10 ,, ...	1,030	1,224	13	118·834	1·262	1·062
10 to 14 ,, ...	393	667	12	167·175	3·053	1·799
14 to 20 and upwards	933	889	35	95·284	3·751	3·937
Total	4,692	6,413	121	136·658	2·578	1·887

LIX.—*Sickness and Mortality amongst European Troops in Bengal in regard to Length of Residence for* 1847-8.

Period of Residence in India.	Strength of each Class.	Admissions of each Class.	Deaths of each Class.	
Under 1 year	2,273	2,013	133	5·85
1 to 3 years	3,509	8,359	217	6·15
3 to 5 ,, ...	4,380	6,766	198	4·52
5 to 7 ,, ...	2,880	4,410	122	4·23
7 to 10 ,, ...	1,746	2,720	81	4·64
10 to 14 ,, ...	678	1,516	25	3·69
14 to 20 ,, ...	655	1,006	23	3·57
Above 20 years	49	78	1	2·1
Born in India	10	11	1	1·0
Total.....	16,180	26,879	801	4·95

No exertion appears to be spared at Madras to withdraw the European troops from habits of intemperance, by canteen regulations, by encouraging temperance societies in regiments, by supplying malt liquor to the men so cheap that they may prefer it to spirits, and also by affording them physical and intellectual amusements. Nevertheless, the reports from almost all the medical officers concur in stating, that "the chief cause of crime and mortality is drunkenness." If such be the opinions at Madras, where the mortality is *comparatively* small, they have added weight in Bengal, where a medical officer, in his report for 1847, uses the following language: "The prisoners brought to trial (Europeans) during the year, and convicted, were 294, of whom 3 were transported as felons, 16 subjected to corporal punishment, and the rest to various periods of imprisonment; and this dark catalogue had in almost every instance its origin more or less remote in drunkenness." The medical officer, freely admitting this, nevertheless states, "that the difficulty of devising a remedy for its removal appears almost insurmountable." And another Bengal medical officer reports that, at a station, from 1840 to 1848, only 33 men died from fever, but 41 died of *delirium tremens*; and there were 2375 cases of drunkenness in a strength of 3451 men. Even in temperate regiments (so called) the consumption of spirits and beer among the Madras troops is startling. For instance, the following is a return of the liquors sold in the canteen of a regiment from the 1st January to the 31st December, 1847:—

Arrack.		Brandy.	Gin.	Beer.	Porter.
Gallons.*	Drams.	Bottles.	Bottles.	Bottles.	Bottles.
7,679	2	802	270	5,613	2,514

* There are 40 drams to a gallon.

So that 307,160 drams of arrack were consumed in the canteen, and 9,199 bottles of brandy, gin, beer, and porter. This was the quantity legitimately obtained in the canteen; and how much more may have been illegitimately obtained elsewhere it is impossible to say. The average strength of the regiment was 892, and it had a teatotal society of 153 members, and a temperance society of 80 members. In a regiment at Hyderabad there were 84 temperance men, and 845 spirit drinkers; and the annual consumption per man, in the canteen, was 277 drams. In the artillery, at the same place, there were 24 temperance men, and 104 spirit drinkers, who consumed 401 drams each per annum, independently of 972 bottles of beer and porter each yearly; while the European regiment only consumed 14 bottles of beer per man annually.

The medical officers generally bear testimony to the sanitary advantages, amongst well-organized bodies of Europeans, resulting from the men being provided with intellectual as well as physical amusements. In the artillery, at the mount near to Madras, each company has its library; but the Roman Catholic priest objected to members of his church belonging to them. The amusements are rackets, football,

skittles, long bullets, and chess and backgammon in the canteen and temperance rooms; such arrangements exist in all properly organized regiments. Of the 1st Madras Fusiliers it is said that the 1st January, 1848, was their hundredth anniversary, as they were embodied in 1748, from independent companies. There was a teatotal and temperance society in the regiment, and with an average strength of 892 in 1847 they lost only 6 men. Crime was comparatively rare, and the men were respectful and well conducted. In a troop of horse artillery at Jaulna, consisting of 102 Europeans, the medical officer reported that the internal economy was so good that intemperance was rare, and other crimes so few "*that not a case has required to be brought before a court martial for the last three years.*" This is almost marvellous, —102 common European soldiers without a court martial punishment amongst them for three years! In the Southern Division there was only 1 death in 1837 in a company of artillery of 53 men; and in a European regiment in the same division, 945 strong, there were only 12 deaths, at the rate of 1·27 per cent., an absence of mortality not equalled by a regiment in Europe. The medical officers attach much importance to the men being induced to drink malt liquor, by its abundance and cheapness, rather than spirits; and their sentiments appear to be embodied in the following extract from one of their reports: "The measure still adopted by the Government of supplying the canteen with porter in casks, direct from England, *continues to prove highly beneficial and conducive to the maintenance of good health among the Europeans.*" The facts and opinions in the preceding extracts are so entirely in conformity with my own observations and experience, that I venture to repeat a few words, with which I closed my analysis of the vital statistics of the armies of India, addressed to the Statistical Society early in 1847:—

"I have a strong conviction that much of European disease in India is traceable to over stimulus, and that mortality amongst the European troops will not be lessened until the European soldier is improved in his habits; until he is made to understand that temperance is for the benefit of his body, libraries for the benefit of his mind, exercise for the benefit of his health, and savings' banks for the benefit of his purse."

The final results of the comparisons between the average sickness and mortality, from 1842 to 1846, inclusive, and 1847, are shown in the following tables:—

LX.—EUROPEANS.

Years.	Per Centage of Treated to Strength.	Deaths to Strength.	Deaths to Sick Treated.
1842	161·341	4·205	2·606
1843.....	174·300	4·905	2·814
1844.....	147·744	2·810	1·902
1845	162·543	3·912	2·407
1846	149·743	3·617	2·415

LXI.—NATIVES.

Years.	Per Centage of Treated to Strength.	Deaths to Strength.	Deaths to Sick Treated.
1842.....	74·218	2·528	3·407
1843.....	67·405	2·371	3·517
1844.....	69·273	1·994	2·879
1845.....	66·616	2·062	3·096
1846.....	76·657	2·680	3·497

The average for the five years gives the following per centage from all diseases:—

EUROPEANS.

Per centage of Treated to Strength	159·215
Ditto of Deaths to do.	3·856
Ditto of do. to Treated	2·439

NATIVES.

Per centage of Treated to Strength	70·846
Ditto of Deaths to do.	2 076
Ditto of do. to Treated	3·287

The experience in 1847 gives the following results:—

EUROPEANS.

Per centage of Treated to Strength	156·575
Ditto of Deaths to do.	2·948
Ditto of do. to Treated	1·883

NATIVES.

Per centage of Treated to Strength	77·611
Ditto of Deaths to do.	1·295
Ditto of do. to Treated	1·668

From which it will be observed that although disease has been pretty nearly equally frequent, yet it is very satisfactory to notice a marked decrease, in point of severity, by nearly one per cent. less mortality, both as to the strength and number stated amongst both bodies of men in 1847. The mean mortality amongst the *Company's* European soldiers, from 1825 to 1844, inclusive, being 3·846 per cent., and the results of the five years under review, being 3·856 per cent., the close approximation would seem to testify that these figures are indications of normal conditions.

The following per centage mortality amongst Europeans, under the different governments in India, does not come within the period to which the preceding tables refer, nor is it from Madras, but its insertion will extend the range of comparisons.

Mortality amongst European Troops in India.

Years.	Bengal.	Madras.	Bombay.
1845.....	6·21	3·62	8·3
1846.....	5·04	3·64	9·32
1847.....	4·49	3·08	3·01
1848.....	5·25	1·64	2·51
1849.....	7·13	2.24	4·6

It would hence appear that there is a slight diminution in the mortality in Bengal; but there had also been similar fluctuating diminutions in the preceding 20 years. The fluctuations in Bombay, from 9·32 per cent. to 3·01 and 2·51 per cent., are remarkable; the more so when compared with the comparatively steady mortality in the Madras European troops.

In conclusion, I may add that statements of the nature of the preceding, founded as they are upon the most minute and elaborate official details, have important bearings. To the medical man, they afford the means of comparing the intensity of the same disease under different local circumstances, of investigating the history and character of diseases, and of applying remedial or ameliorating measures where practicable. The physiologist views with a curious and inquiring eye the influence of those physical, social, or moral causes which occasion the development of *latent* diseases under certain conditions; or the exacerbation of those that are patent under other conditions; not less does he contemplate and consider the prodigious discrepancies in the value of life of beings with the same organization, and living under the same climatorial conditions, but of different geographical origin and habits. The actuary finds data for regulating his estimation of the value of life, and of fixing his premiums accordingly. The statesman, the economist, and the philanthropist have their interest also in such statements. The first in relation to securing his political objects in the most efficient manner, by the smallest agency; the second desiderates a system to secure the state from a wasteful expenditure of its pecuniary resources, by a wasteful expenditure of European life in India, for it is understood that each European costs 100*l.* by the time he joins his regiment, and the 10,025 lives lost from 1845 to 1849 in all India, occasioned a loss, therefore, of above a million of money; and finally, the philanthropist is shocked by the conviction that much of the waste of European life in India is self-imposed, and that much of the intensity of the mortality might be within human control.

While the preceding tables were under press, the following statements appeared in the "Madras Government Gazette," for March last. They embrace a larger number of troops than are found in the Medical Reports of 1842 to 1847. They are not verified by any official signature; but I think it desirable to annex them for the sake of future analyses:—

TABLE *Exhibiting the Number of Admissions and Deaths from the most important Diseases among the European Troops of the Madras Army during Seven Years, from* 1842 *to* 1848 *inclusive; showing also the Total Number of Admissions and Deaths during the same period, the Per Centage of Sick Treated to Strength, Deaths to Strength, and Deaths to Sick Treated.*

Years.	Strength.	Cholera.		Fevers.		Liver.		Diarrhœa.		Dysentery.		Thoracic Disease.		Rheumatism.		Venereal Disease.		Dropsy.		Total from preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
1842.....	12,080	335	163	3,137	26	991	34	1,683	37	1,912	121	194	20	1,171	7	2,414	5	43	8	11,880	421	19,490	508
1843.....	12,436	448	206	4,031	50	911	36	1,663	37	2,008	158	381	27	1,171	5	2,188	7	49	11	12,850	537	21,676	610
1844.....	13,057	111	54	3,431	53	811	23	1,333	20	1,360	89	387	21	1,248	5	2,099	3	35	7	10,815	275	19,291	367
1845.....	12,548	232	124	3,971	52	930	50	1,447	27	1,625	102	179	21	1,048	9	2,470	7	31	8	11,933	400	20,396	491
1846.....	11,113	146	75	2,966	36	827	40	949	17	1,339	98	147	16	882	10	2,332	8	30	8	9,718	308	16,641	402
1847.....	11,429	32	22	2,710	30	740	41	1,292	14	1,346	116	236	28	1,047	4	3,401	4	30	1	10,834	260	17,895	337
1848.....	9,679½	3	2	2,677	23	701	13	822	9	841	50	1,288	25	1,064	5	3,484	5	30	9	10,910	141	17,290	174
Total	82,342½	1,307	646	22,923	270	5,911	237	9,189	161	10,531	734	2,812	158	7,631	45	18,388	39	248	52	78,940	2,342	132,679	2,889
Per centage of Treated to Strength		1·587		27·838		7·178		11·159		12·790		3·415		9·390		22·331		0·301		91·010		161·131	
Do. of Deaths to do. ...		0·784		0·327		0·287		0·196		0·903		0·193		0·054		0·047		0·063		2·844		3·508	
Do. do. to Treated		49·426		1·177		4·009		1·752		6·969		5·618		0·589		0·212		20·967		2·967		2·177	

TABLE *Exhibiting Information on the same points for the Year* 1849.

Years.	Strength.	Cholera.		Fevers.		Liver.		Diarrhœa.		Dysentery.		Thoracic Disease.		Rheumatism.		Venereal Disease.		Dropsy.		Total from preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
1849.....	9,559	43	26	2,807	12	625	32	884	19	905	72	967	34	967	2	3,901	5	22	2	10,311	204	15,589	245
Per centage of Treated to Strength		0·449		29·364		6·538		9·247		9·467		10·116		10·116		40·809		0·230		107·861		163·081	
Do. of Deaths to do. ...		0·271		0·125		0·334		0·198		0·753		0·355		0·020		0·052		0·020		2·134		2·563	
Do. do. to Treated		60·465		0·427		5·120		2·149		7·955		3·516		0·206		0·128		9·090		1·978		1·571	

TABLE *Exhibiting the Number of Admissions and Deaths from the most important Diseases amongst the Native Troops of the Madras Army during Seven Years, from* 1842 *to* 1848 *inclusive; showing also the Total Number of Admissions and Deaths during the same period, the Per Centage of Sick Treated to Strength, Deaths to Strength, and Deaths to Sick Treated.*

Years.	Strength.	Cholera.		Fevers.		Liver.		Diarrhœa.		Dysentery.		Thoracic Diseases.		Rheumatism.		Venereal Diseases.		Dropsy.		Total from preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
1842	74,618	1,786	741	19,401	284	108	13	3,180	266	947	81	392	42	5,140	62	2,467	22	373	71	33,794	1,582	55,360	1,887
1843	73,763	2,166	905	14,888	200	92	13	1,692	128	846	54	472	50	4,976	54	2,403	16	446	82	27,981	1,502	49,720	1,749
1844	73,083	1,181	519	17,584	213	113	14	1,652	77	1,046	73	461	41	5,189	77	2,178	16	694	107	30,098	1,137	50,627	1,458
1845	74,861	1,718	708	17,824	194	112	12	1,596	78	1,087	66	386	46	4,921	54	2,023	22	703	103	30,370	1,283	49,870	1,544
1846	74,682	2,699	1,208	23,303	248	116	10	1,726	68	979	71	430	49	4,944	46	2,299	11	504	67	37,000	1,778	57,249	2,002
1847	67,950	234	78	22,928	209	93	14	1,226	58	974	63	336	40	4,690	46	2,547	8	773	101	33,801	617	52,737	880
1848	55,946	237	93	22,336	165	76	9	1,030	32	742	53	895	66	4,451	28	1,968	6	523	80	32,258	532	48,248	690
Total	494,903	10,021	4,252	138,264	1,513	710	85	12,102	707	6,621	461	3,372	334	34,311	367	15,885	101	4,016	611	225,302	8,431	363,831	10,210
Per centage of Treated to Strength		2·024		27·937		0·143		2·445		1·337		0·681		6·932		3·209		0·811		45·524		73·515	
Do. of Deaths to do.		0·859		0·305		0·017		0·142		0·093		0·067		0·074		0·020		0·123		1·703		2·063	
Do. do. to Treated		42·430		1·094		11·917		5·842		6·962		9·905		1·069		0·635		15·214		3·742		2·806	

TABLE *Exhibiting Information on the same points for the Year* 1849.

Years.	Strength.	Cholera.		Fevers.		Liver.		Diarrhœa.		Dysentery.		Thoracic Diseases.		Rheumatism.		Venereal Diseases.		Dropsy.		Total from preceding Diseases.		Grand Total of all Diseases.	
		Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
1849	50,030	269	104	18,588	133	86	6	1,159	29	631	27	911	61	3,929	26	1,984	8	520	62	28,077	456	43,785	610
Per centage of Treated to Strength		0·537		37·153		0·171		2·316		1·261		1·820		7·853		3·965		1·039		56·120		87·517	
Do. of Deaths to do.		0·207		0·265		0·011		0·057		0·053		·0·121		0·951		0·015		0·123		0·911		1·219	
Do. do. to Treated		38·661		0·716		6·976		2·502		4·278		6·695		0·661		0·403		11·923		1·624		1·393	

TABLES *Showing the Influence of Intemperance on Sickness and Mortality and Crime amongst the European Troops under the Madras Presidency, during the Year* 1849.

TABLE I.

Showing the Sickness and Mortality amongst Various Classes of Men.

Classes	Teatotallers.				Temperate.			
Strength	450.				4,318.			
Diseases.	Admitted.	Died.	Ratio of Admission to Strength per Cent.	Ratio of Deaths to Strength per Cent.	Admitted.	Died.	Ratio of Admission to Strength per Cent.	Ratio of Deaths to Strength per Cent.
Fevers	141	1	31·333	0·222	768	1	17·786	0·023
Cholera	....	....	....	....	17	13	0·393	0·301
Dysentery, Acute and Chronic	52	3	11·555	0·666	344	31	7·966	0·717
Diarrhœa	50	1	11·111	0·222	348	4	8·059	0·092
Other Diseases, Stomach and Bowels	23	....	5·111	....	337	6	7·804	0·138
Hepatitis, Acute and Chronic	26	....	5·777	....	249	16	5·766	0·370
Disease of the Lungs	43	....	9·555	....	478	17	11·069	0·393
Ditto Brain	14	....	3·111	....	108	1	2·501	0·023
Rheumatic Affections	27	....	6·000	....	487	....	11·278	....
Venereal ditto	94	....	20·888	....	1,514	1	35·062	0·023
Dropsies	....	....	....	....	2	....	0·046	....
All other Diseases	119	....	26,444	....	1,462	10	33·858	0·231
Total	589	5	130·888	1·111	6,114	100	141·593	2·315

Classes	Intemperate.				Total.			
Strength	942.				5,710.			
Fevers	190	2	20·169	0·212	1,099	4	19·246	0·070
Cholera	7	6	0·743	0·636	24	19	0·420	0·332
Dysentery, Acute and Chronic	112	15	11·889	1·592	508	49	8·896	0·858
Diarrhœa	108	....	11·464	....	506	5	8·861	0·087
Other Diseases, Stomach and Bowels	112	2	11·889	0·212	472	8	8·266	0·140
Hepatitis, Acute and Chronic	96	2	10·191	0·212	371	18	6·497	0·315
Disease of the Lungs	113	4	11·995	0·424	634	21	11·103	0·367
Ditto Brain	82	5	8·704	0·530	204	6	3·572	0·105
Rheumatic Affections	143	1	15·180	0·106	657	1	11·506	0·017
Venereal ditto	477	....	50·636	....	2,085	1	36·514	0·017
Dropsies	1	....	0·106	....	3	....	0·052	....
All other Diseases	583	5	61·889	0·530	2,164	15	37·898	0·262
Total	2,024	42	214·861	4·458	8,727	147	152,837	2·574

The above return includes the 15th Hussars, H. M.'s 25th, 51st, 84th, and 94th Regiments, and the 1st Madras Fusiliers.

TABLE II.—*Return showing the Comparative Ratio of Punishments, &c., awarded to the following Classes of Men.*

Class	Teatotallers.								
Corps	Artillery Corps.	H. M.'s 15th.	H. M.'s 25th.	H. M.'s 51st.	H. M.'s 84th.	H. M.'s 94th.	1st Madras Fusiliers.	2nd European L. I.	Total.
Strength	145	10	54	...	249	99	38	76	671
Punished by Regimental Captains	10	...	17	...	27	16	8	21	99
Punished by Commanding Officers	2	...	...	...	38	2	7	8	57
Tried by Regtl. Courts Martial	...	...	...	...	2	1	...	...	3
Tried by District ditto	...	...	...	...	...	...	...	...	...
Tried by General ditto	...	...	...	...	...	...	...	...	...
Total	12	...	17	...	67	19	15	29	159
Ratio per Cent. to Strength	8·275	...	31·481	...	26·907	19·191	39·473	38·157	23·695

Class	Temperate.								
Strength	1,468	603	574	886	677	723	855	825	6,611
Punished by Regimental Captains	600	92	103	181	131	134	114	298	1,653
Punished by Commanding Officers	167	124	356	134	359	160	321	465	2,086
Tried by Regtl. Courts Martial	19	2	18	6	5	10	9	13	82
Tried by District ditto	15	2	10	5	1	...	7	11	51
Tried by General ditto	3	...	2	...	1	...	...	4	10
Total	804	220	489	326	497	304	451	791	3,882
Ratio per Cent. to Strength	54·768	36·484	85·191	36·794	73·412	42·047	52·748	95·878	58·720

Class	Intemperate.								
Strength	845	45	88	203	136	315	155	174	1,461
Punished by Regimental Captains	254	11	...	87	40	98	22	212	724
Punished by Commanding Officers	285	38	139	105	136	249	106	427	1,485
Tried by Regtl. Courts Martial	72	5	3	9	8	42	9	56	204
Tried by District ditto	47	2	5	2	1	2	2	4	72
Tried by General ditto	6	...	...	...	1	...	2	4	13
Total	664	56	147	203	186	391	148	703	2,498
Ratio per Cent. to Strength	192·463	124·444	167·045	100·000	136,764	124·126	95·483	404·022	170·978

	Ratio per Cent. to Strength.		
	Teatotallers.	Temperate.	Intemperate.
Punished by Regimental Captains	14·754	25·003	49·556
Punished by Commanding Officers	8·494	31·553	101·642
Tried by Regimental Courts Martial	0·447	1·240	13·963
Tried by District ditto	...	0·771	4·928
Tried by General ditto	...	0·151	0·889
Total	23·695	58·720	170·978

The returns of the year 1842 to 1846 inclusive, continued in the above tables, strengthen the improved view of the health of the European troops; the former average gave 3·856 per cent. of deaths, and the latter 3·508 per cent.; the average of the Native mortality continuing singularly stationary, viz., 2·076 and 2·063 per cent. The Temperance and Punishment Tables should be in the hands of every European soldier, to impress upon him the salutary lesson, that wherever teatotaler is cut off, 4 intemperate men lose their lives; and in regimental courts martial, where not 1 teatotal soldier in 200 is subjected to punishment, 28 intemperate men are punished; and before district and general courts martial the teatotaler does not appear at all.

ON THE MEASUREMENT OF HEIGHTS BY COMMON THERMOMETERS.

By Lieut.-Col. W. H. SYKES, F.R.S.

[*Extracted from the London Geographical Journal, Volume VIII.*]

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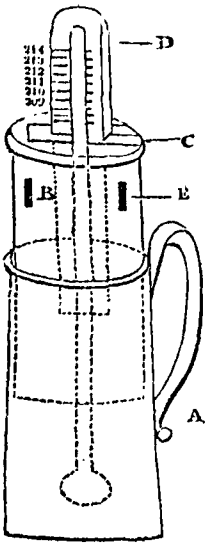
On the Use of Common Thermometers to determine heights.

By Lieut.-Col. W. H. Sykes, F.R.S.

[*Extracted from the London Geographical Journal, Vol. VIII.*]

Having been recently applied to by two gentlemen about to travel—the one in Africa and the other in Asia Minor—for a description of the thermometers and apparatus used by myself for some years in India for determining heights by the boiling temperature of water, I have ventured to believe that a brief account of a process which I found to produce results sufficiently near to the truth for most practical purposes, may not be unacceptable to some members of the Society, particularly as I carried on my barometrical observations contemporaneously, and thereby obtained data for fixing the value of certain points on the thermometric scale. To determine heights accurately, good barometers are necessary, which have been carefully compared with a standard barometer; the observations must be taken simultaneously at the upper and lower stations, and the temperature of the mercury and the air, and the hygrometric state of the latter, must be noted. Heights so determined, when tested again in the same or succeeding years, I have rarely found to vary more than 10 or 20 feet in 4000 or 5000. When barometers are used which have not been previously compared with a standard, when the observations are not simultaneous, and when the pressure and temperature at the level of the sea are *assumed*, the results may by accident be near to the truth, but they will usually be from 100 to 300 feet wrong,—at least such is the result of my experience within the tropics. But good barometers are very costly; they are troublesome to carry, are particularly exposed to accident on a journey, and get out of order by the escape of the mercury, which being frequently unobserved, the barometer continues to be used as if it were correct. The late Archdeacon Wollaston, aware of these facts, invented the thermometric barometer to supply the place of the ordinary barometer. This instrument is very sensible, but it is very fragile from the great weight of the bulb compared with the slenderness of the stem; moreover, there are some complex accompaniments, and the instrument is also expensive: in short, I found it not fit for *rough work* out-of-doors, having had three destroyed at the outset of my labours; and the same opinion is expressed by Mr. James Prinsep, of Calcutta, who is well known for the practical application of his scientific knowledge. I had then recourse to common thermometers, and, with certain precautions in their use, found them answer my purpose sufficiently well. A tin shaving-pot was my boiler; dry sticks and pure water were usually to be had, and by

the time my barometers were settled I was ready to take the boiling temperature. The following is a sketch of the apparatus.



A, A common tin pot, 9 inches high by 2 in diameter.

B, A sliding tube of tin moving up and down in the pot; the head of the tube is closed, but has a slit in it, C, to admit of the thermometer passing through a collar of cork which shuts up the slit where the thermometer is placed.

D, Thermometer, with so much of the scale left only as may be desirable.

E, Holes for the escape of steam.

It will be seen that the chief part of the scale usually attached to the thermometer is removed, only so much of it being left as may be desirable: I however permitted the brass scale of one of my thermometers to remain, and I did not discover that it was the cause of error. Previously to taking the thermometers inland, it is necessary to ascertain their boiling points at the level of the sea; for in many instances the scales are so carelessly applied, that a thermometer may indicate a boiling temperature of 213° 214° or 215° at the level of the sea; one of mine stood at 214.2 when water boiled. Nevertheless, by making a deduction of 2° 2′ in all observations, the indications rarely differed five-hundredths of a degree from the other thermometer, of which the boiling point was 212°: the temperature of the air and the height of the barometer at the time the *verification* of the thermometers is made must be noted. The following is the manner in which my observations were taken:—from 4 to 5 inches of *pure* water were put into the tin pot; the thermometer was fitted into the aperture in the lid of the sliding-tube by means of a collar of cork; the tin tube was then pushed up or down to admit of the bulb of the thermometer, being about *two inches*, above the bottom of the pot. Violent ebullition was continued for 10 minutes or a quarter of an hour, and the height of the mercury was repeatedly ascertained during that time, and the temperature of the air was noticed. Similar operations were repeated with a *second* thermometer, for it is never safe to rely upon *one* instrument. Having obtained the boiling points, it remains to determine the value of the indication of diminished pressure when the observations are taken above the level of the sea. The elastic tension of steam at different points on the thermometric scale has been determined by experiment, but not at regular intervals on the scale, nor with similar results, by different persons; tables, therefore,

computed from the formulæ of the various experimenters do not accord; but, in three tables which I have in my possession, the heights computed by them, when compared with heights determined by corresponding barometrical observations, with previously compared barometers, (the only satisfactory way to ascertain heights not taken trigonometrically,) approximate sufficiently near for all practical purposes where great accuracy is not desired. These tables, however, differ slightly from each other.

The table which first came into my hands appeared anonymously in the Madras Gazette for 1824. In 1826 an able friend, Lieut. Robinson, of the Indian Navy, who entered warmly into my views to determine heights by common thermometers, thought he could improve upon the table I was using, and accordingly made a new computation; the third table came under my notice much more recently than the two former. It is computed by Mr. James Prinsep, of Calcutta, Secretary of the Asiatic Society of Bengal, a gentleman distinguished for his scientific research. He published it in the Journal of the Society. To admit of a just estimate being formed of the value of these tables,—of the value of corresponding barometrical observations, made with due precautions, although with different coadjutors and different instruments,—of the value of barometrical observations, with an assumed pressure and temperature, at the level of the sea,—of the value of thermometrical compared with barometrical observations,—out of many hundred heights determined in various ways, I have taken many at random, (the number it appears is eighty-eight,) and I have put them into juxtaposition in a tabular form. In thermometric heights the elements at the level of the sea were a boiling temperature of 212° Fahr. and a mean temperature of the air of 82°. The *assumed* pressure in heights determined barometrically, without corresponding observations, was 30 inches; mean temperature 82°. In looking over the tabulated results I was a good deal surprised to find that in no instance, by whatever method determined, do the barometric differences in height exceed 127 feet, and this only by comparing the highest indications with an assumed pressure with the lowest indications of corresponding observations. It will be seen that the various tables for determining heights thermometrically, with certain exceptions, do not differ very *materially* in their results from each other, nor from corresponding barometric observations; the formulæ on which they are founded may therefore be considered, on the whole, sufficiently accurate for the present state of our knowledge.

Lieut. Robinson's and Mr. Prinsep's tables give close approximations to each other in their results, but they are as much below

the corresponding barometric observations, which I consider the true heights, as the results by the Madras table are above the true heights. Some of them curiously coincide within a foot or two of the heights determined by corresponding barometrical observations. but this coincidence must be the result of mere accident. Taking the mean of all the thermometric observations at a station calculated by the three tables, and the mean of all the corresponding barometric observations at the same place, the utmost difference is 107 feet in less than 600; and the least difference is 8 feet in about 3000; but, as the thermometric heights in which the difference of 107 feet occurs were single observations, made by a gentleman who had newly begun to use his thermometers, they may be looked upon as probably less accurate than subsequent trials would have made them. This is scarcely an unjust inference, as it will be seen that the next greatest difference made by the same gentleman was only 24 feet in 4490. It must be admitted however that this amount of error is just as likely to occur in heights of 100 feet as in those of 10,000. My thermometers were not graduated to less than half-degrees, and long practice enabled me to determine the height of the mercury in the stem to one-twentieth of a degree; but I would recommend thermometers being used in which the degrees are graduated to fifths or tenths of a degree. On the whole, I think the results of six years' experience justify me in saying that common thermometers may be satisfactorily used to supply the place of barometers in measuring heights where great accuracy is not required, and it will be recollected that what is usually looked upon as a difficult and troublesome operation with barometers, will be attainable by any person who carries with him a couple of thermometers, the requisite tin pot, and the tables, and who is master of the simplest rules of arithmetic.

Of the three tables in my possession I have chosen Mr. Prinsep's to submit to the Society, from their perspicuity and the facilities they offer for the conversion of boiling temperatures into heights with very little trouble; but a glance over the figures in my tables of altitudes will show that the tables are susceptible of considerable improvement, for, with two exceptions, all the heights deduced from Mr. Prinsep's and Lieut. Robinson's are much below those determined by simultaneous observations with good barometers; and I join with Mr. Prinsep in expressing a hope that every traveller boiling his thermometers will at the same time, if he possess a barometer, make a record of its indications, and thus render essential service to physics by fixing so many points on the scale of the elastic tension of steam at different temperatures.

Year.	Date.	Names of Places.	ALTITUDES DEDUCED FROM 1	2	3	4	5	6	7	8	9	10	11	12	13	14
			Jones's Bar. No. 2, with assumed pressure of 30·0 in., and mean temp. 82° at the level of the sea.	Cary's Barometer, No. 2, ditto ditto.	Corresponding observations with Capt. Jervis's Gilbert's Bar. and Cary's No. 2.	Corresponding observations with Dr. Walker's Gilbert's Bar. and Cary's No. 2.	Corresponding observations with Capt. Jopp and Cary's Bar. No. 2.	Corresponding observations with Cary's Bars. Nos. 1 and 2.	Corresponding observations with Cary's Bar. No. 1, and Jones's No. 2.	Heights by boiling temperatures, therm. 1 by the Madras tables.	Heights by boiling temperatures, therm. 2 by the Madras tables.	Heights by boiling temp. by Lieutenant Robinson's tables, Indian Navy.	Heights by boiling temperatures, by tables of James Prinsep, Esq., Calcutta.	Difference between the means of *all* the boiling temp. and barometric corresponding observations.	Mean of corresponding observations by Barometers.	Mean of all the boiling temperatures.
1827	23 May....	Highest point, Hill Fort of Púrundhur.....	4588	4599	....	....	....	†4471	4528	4536	4553	4415	4427	−16	4499	4483
1827	10 May....	Singhur Hill Fort	4199	4190	....	....	....	†4211	4170	4341	4220	3927	3923	−86	4190	4104
1828	15 May....	Temple at Buna Shunkur	....	....	....	....	†3090	....	....	3037	3037	2992	2991	−71	3090	3019
1825 1827	6 March 11 May..	Karleh, Cave Temple	2493	2652	....	....	....	†2530	....	2693 2526	2646 2526	2468	2478	+27	2580	2557
1827	23 May....	Highest point of Púrundhur above Púna	2697	2661	....	....	....	†2648	†2650	2661	....	2539	2566	−61	2649	2588
1828	9 Feb... 3 April.	Pait on the Yail River.....	....	....	†2478 †2493	....	†2470	....	....	2494	2494	2480	2484	+8	2490	2488
1829 1829	.....	Temple in the Hill Fort of Hurichundurghur	3972	3331	3845	†3322	†3871	†3897	3935	3840 3887	3869 3887	3824	3788	−46	3892	3846
1829	11 to 17 Dec....	Source of Kristna River at Mahabuleshwur	....	....	....	†1496 †1503	....	....	....	*4498	*4556	*4492	*4425	−24	4499	4475
1828	27 April ...	Pokri	....	....	....	....	†3197	....	....	3194	3194	3185	3141	−19	3197	3178
1828	6 April ...	Kullumb, on Goreh River	....	....	2043 2027	....	†1995	....	....	1971	2000	1988	1986	−36	2022	1986
1825 1826 1827 1828 1829	.....	Púna, Hay Cottage	....	....	1810 1820	†1910	†1837	†1823	....	Means 1883	1897	1876	1861	+59	1820	1879
1828	16 Feb....	Downdé, on the Bima River..	....	....	....	....	1623	....	....	1591	1591	1567	1575	−41	1623	1582
1828	29 Oct.	Sasswur, above Púna	....	....	....	592	....	....	....	*514	*456	....	....	−107	592	485

† The heights most relied upon. * Boiling temperatures determined by Dr. Walker.

TABLE I.

To find the Barometric Pressure and Elevation corresponding to any observed Temperature of Boiling Water between 214° and 180°.

Boiling Point of Water.	Barometer Modified from Tredgold's Formula.	Logarithmic Differences or Fathoms.	Total Altitude from 30.00 in. or the Level of the Sea.	Value of each Degree in Feet of Altitude.	Proportional Part for One-tenth of a Degree.
°			Feet.	Feet.	Feet.
214	31.19		−1013	−505	..
213	30.59	00.84.3	507	−507	..
212	30.00	84.5	0	+509	..
211	29.42	84.9	+509	511	51
210	28.85	85.2	1021	513	..
209	28.29	85.5	1534	515	..
208	27.73	85.8	2049	517	..
207	27.18	86.2	2566	519	52
206	26.64	86.6	3085	522	..
205	26.11	87.1	3607	524	..
204	25.59	87.5	4131	526	..
203	25.08	87.8	4657	528	..
202	24.58	88.1	5185	531	53
201	24.08	88.5	5716	533	..
200	23.59	88.9	6250	536	..
199	23.11	89.3	6786	538	..
198	22.64	89.7	7324	541	54
197	22.17	90.1	7864	543	..
196	21.71	90.5	8407	546	..
195	21.26	91.0	8953	548	..
194	20.82	91.4	9502	551	55
193	20.39	91.8	10053	553	..
192	19.96	92.2	10606	556	..
191	19.54	92.6	11161	558	..
190	19.13	93.0	11719	560	56
189	18.72	93.4	12280	563	..
188	18.32	93.8	12843	565	..
187	17.93	94.2	13408	569	57
186	17.54	94.8	13977	572	..
185	17.16	95.3	14548	575	58
184	16.79	95.9	15124	578	..
183	16.42	96.4	15702	581	..
182	16.06	96.9	16284	584	..
181	15.70	97.4	16868	587	..
180	15.35	97.9	17455		59

The Fourth Column gives the Heights in Feet.

TABLE 2.

Table of Multipliers to correct the Approximate Height for the Temperature of the Air.

Temperature of the Air.	Multiplier.	Temperature of the Air.	Multiplier.	Temperature of the Air.	Multiplier.
°		°		°	
32	1.000	52	1.042	72	1.083
33	1.002	53	1.044	73	1.085
34	1.004	54	1.046	74	1.087
35	1.006	55	1.048	75	1.089
36	1.008	56	1.050	76	1.091
37	1.010	57	1.052	77	1.094
38	1.012	58	1.054	78	1.096
39	1.015	59	1.056	79	1.098
40	1.017	60	1.058	80	1.100
41	1.019	61	1.060	81	1.102
42	1.021	62	1.062	82	1.104
43	1.023	63	1.064	83	1.106
44	1.025	64	1.066	84	1.108
45	1.027	65	1.069	85	1.110
46	1.029	66	1.071	86	1.112
47	1.031	67	1.073	87	1.114
48	1.033	68	1.075	88	1.116
49	1.035	69	1.077	89	1.118
50	1.037	70	1.079	90	1.121
51	1.039	71	1.081	91	1.123

Enter with the mean temperature of the stratum of air traversed, and multiply the approximate height by the number opposite, for the true Altitude.

When the thermometer has been boiled at the foot and at the summit of a mountain, nothing more is necessary than to deduct the number in the column of feet opposite the boiling point below from the same of the boiling point above: this gives an approximate height, to be multiplied by the number opposite the *mean* temperature of the air in Table 2, for the correct altitude.

	°		feet.
Boiling point at summit of Hill Fort of Púrundhur, near Púna	204.2	=	4027
Boiling point at Hay Cottage, Púna . . .	208.7	=	1690
Approximate height			2337
Temperature of the air above . .	75°		
Ditto ditto below . .	83		
Mean	79	= Multiplier	1.098
Correct altitude			2,566 feet.

When the boiling point at the upper station alone is observed, and for the lower the level of the sea, or the register of a distinct barometer is taken, then the barometric reading had better be converted into feet, by the usual method of subtracting its logarithm from 1·47712 (log. of 30 inches) and multiplying by ·0006, as the differences in the column of "*barometer*" vary more rapidly than those in the "*feet*" column.

	Feet.
Example.—Boiling point at upper station - - 185°=	14548
Barometer at Calcutta (at 32°) 29 in. 75°	
Logar. diff.=1·47712−1·47349=00363×0006=	218
Approximate height - -	14330
Temperature, upper station, 76° / Ditto lower, 84° } 80=multiplier	1·100
Correct altitude - - -	15763

Assuming 30·00 inches as the average height of the barometer at the level of the sea (which is however too much), the altitude of the upper station is at once obtained by inspection of Table 1, correcting for temperature of the stratum of air traversed by Table 2.

[Newman, Optician, 122, Regent Street, has been in the habit of making these instruments; he recommends the use of copper brazed, instead of tin, as more durable; and a free escape for the steam, or the results will be incorrect from the boiling taking place under pressure; a model may be seen at the apartments of the Royal Geographical Society.—ED.]

London: Printed by W. CLOWES and SONS, Stamford-street.

The Literary Society of Bombay
From the Author

STORM WARNINGS;

THEIR

IMPORTANCE AND PRACTICABILITY.

BY

COLONEL SYKES, M.P., F.R.S.

Reprinted from the "Civil Engineer and Architect's Journal," October, 1867.

LONDON:
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STORM WARNINGS; THEIR IMPORTANCE AND PRACTICABILITY.*

By Colonel Sykes, M.P., F.R.S.

The grave importance, not less in a material than in a humane point of view, of science lending its aid to save the lives and property of those whose pursuits embark them on the perilous ocean need not be insisted upon in the presence of a body like the British Association, whose organization and labours are for the promulgation of the knowledge it acquires to useful purposes in life. In the wide varying research of the members of the British Association, meteorology has occupied no mean position with respect to the number and ability of its collectors, but owing to the want of a community of action amongst British observers, and above all, to the want of *international* community of action, there are probably fewer normal conditions established in meteorology than in any other branch of physical knowledge, and yet with our insular population thoughts are directed more generally to the consideration of the weather than to any other subject whatever.

It is not from the want of scientific observers, either in number or ability, for both in public and private observatories for more than a century past observers have been accumulating records, heaping, in fact, Ossa upon Pelion; but, as I have before stated, the want of community of action between different observers has confined within very narrow limits the practical conclusions that ought to have been drawn from the immense labour that had been bestowed upon metereological research, and particularly in maritime meteorology. This state of matters was discussed at an international conference at Brussels in 1853, at which resolutions were passed recommending to the British Government the establishment of a Meteorological Department of the Board of Trade. Mr. Cardwell was then President, and in adopting the recommendation he appointed the late Admiral Fitzroy to be the Director.

In 1854, the Board of Trade consulted the Royal Society on the best mode of recording observations made at sea, and certain recommendations were given and adopted by the Board of Trade the same year. In two or three years, Admiral Fitzroy expressed a belief that the results of the observations he had accumulated enabled him to forecast coming weather two or three days before-

* Delivered before the British Association, Dundee, 1867.

hand. But storm warnings originated in a recommendation of the mathematical section of the British Association, which met at Aberdeen in September, 1859, under the presidency of the late Prince Consort. The section is aware that the mathematical section usually enrols those members of the British Association who have a high reputation for a knowledge of physical science, and the opinions of such men have justly great weight. The recommendation of the section was in the following words :—

"The Committee of the Section of Mathematical and Physical Science having represented the probable importance of occasional telegraphic communication between a few widely-separated parts of Great Britain and Ireland, *by which warning may be given of storms*, the General Committee recommends applications to the Board of Trade for such an arrangement as may further this object *authoritatively*."

In December, this resolution was communicated to the Board of Trade, and Admiral Fitzroy was directed to carry the recommendation into effect, which he continued to do until his lamented death. On that event, the Board of Trade appointed a Committee to report upon the work done. The committee consisted of Captain Francis Galton, F.R.S., General Secretary of the British Association, T. H. Farrer, one of the Secretaries of the Board of Trade, and Captain Evans, R.N., F.R.S., Chief Naval Assistant to the Hydrographical Department, Admiralty. The report is elaborate, and contains a variety of comments and recommendations ; but I will only trouble the section with what relates to the subject of this paper—the daily forecasts of the weather, and storm warnings. The former it considers it premature to attempt in the present state of our meteorological knowledge. With respect to the latter, the committee give the following table of the results of Admiral Fitzroy's prognostications :

Number of Warnings.		Force alone.		Direction as well as Force	
		Right.	Wrong.	Right.	Wrong.
April 1st, 1862, to March 31st, 1863.	160	130, or 81 per cent.	30, or 19 per cent.	55, or 34 per cent.	105, or 66 per cent.
April 1st, 1863, to March 31st, 1864.	125	85, or 68 per cent.	40, or 32 per cent.	60, or 48 per cent.	65, or 52 per cent.
April 1st, 1864, to March 31st, 1865	120	90, or 75 per cent.	30, or 25 per cent.	40, or 33 per cent.	80, or 67 per cent.
Total..	405	305, or 75 per cent.	100, or 25 per cent.	155, or 38 per cent.	250, or 62 per cent.

It is hence shown that in 1862-3, the storm warnings were right 81 times in every 100; 68 times in 1863-4, and 75 times in 1864-5; being right 305 times in 405 warnings, or 75 per cent. Here is sufficient justification for the continuance of the warnings, and the committee contemplated their continuance, for in their programme for the cost of putting the Meteorological Department upon a new footing they absolutely allotted £3,000 for telegraphy and "*storm warnings*," and the Board of Trade, in their letter to the Treasury, dated 8th February, 1867, say, with respect to the proposed grant of £10,450 to the Committee of the Royal Society, that "a portion was intended for storm warnings." The Committee also quote numerous maritime authorities, expressing their confidence in storm warnings. The Board of Trade referred this report of the committee to General Sabine, the President of the Royal Society. A correspondence ensued, which was laid before the House of Commons, but I need not quote from it further than to say that the President of the Royal Society approved generally of the report, and in a letter dated 21st January, 1867, acquiesced in the appointment of a Committee of the Royal Society to take charge of the Meteorological Department of the Board of Trade, on the proposition of being allowed the following establishment and a grant of money for 1867-8.

Annual Salaries, 3 Officers and 7 Clerks	£2,550
Expenses of Observatories	2,000
Telegraphs	3,000
Books and Instruments	900
Travelling expenses, Carriage, Agencies, and Contingencies	1,450
Total Yearly,	£9,900
Preliminary Charge.	
Instruments for 8 Observatories ...	£1,700
Buildings and alterations at Kew ..	1,200...2,900
Total,	£12,800

The Committee to arrange the observations and disburse the annual grant consists of General Sabine, Mr. Gassiot, Dr. W. A. Miller, Mr. De la Rue, Mr. Francis Galton, Mr. William Spottiswoode, and the Hydrographer to the Admiralty, and Col. Smythe, R.A. The committee declined to continue the "storm warnings" on the ground that Admiral Fitzroy had promulgated them mainly on empirical data. The committee proposed the establishment of eight observatories; their operations to continue for a period of 15 years.

The average cost of the Meteorological Department of the Board of Trade for 11 years was £4,302 per annum, and the estab-

lishment consisted of Admiral Fitzroy, one permanent clerk and seven temporary clerks.

Consequent upon the refusal of the Committee of the Royal Society to continue the storm warnings, the Board of Trade issued a circular dated 29th November, 1866, stating that the Board was compelled to suspend the storm warnings from the 7th Dec., 1866. The responsibility for the results of the suspension, rests therefore entirely with the Scientific Committee of the Royal Society. The Scientific Committee on the 21st Jan., 1867, nominated their staff:—Robert Scott, Esq., Director, £800 per annum; Capt. H. Toynbee, Mercantile Marine, £300 per annum; Balfour Stewart, Secty., £400 per annum.

Such is the present condition of the question of storm warnings, and I have now to consider whether any and what importance is attached to them by scientific men, bodies connected with maritime commerce, the fishermen on our coasts and the public generally. At first the warnings were received with distrust, and by some even with ridicule, but at the period of Admiral Fitzroy's death they were generally looked for with anxiety and trust. And first, with respect to the opinions and practice of men of science. The late celebrated Kupfer of St. Petersburgh promulgated storm warnings for the Baltic for several years before his death. Bellot, of the observatory, Utrecht, promulgates them at the present time, and disputed with Admiral Fitzroy priority in commencing to do so. In a Report on the State of the French Empire laid before the Senate and Legislative bodies in Feb. 1867, I find the following passage respecting the Imperial Observatory at Paris:—"The Service of Meteorological Notices, or warnings [*Avertissements Meteorologiques*] to the sea-ports, as amended by the councils of experience, are given regularly morning and evening." The Astronomer-Royal of Scotland, addressed a letter to the Secretary of the Chamber of Commerce, Edinburgh, dated Jany., 1867, as follows, and this letter which is now a Parliamentary paper was sent by the Board of Trade to the Scientific Committee of the Royal Society:—

Royal Observatory, Edinburgh,
9th January, 1867.

Sir,—Agreeably with the request of R. M. Smith, Esq., F.R.S.E., of your honourable Chamber, I beg to lay before you a short opinion on the value of storm signals, as matured under the late lamented Admiral Fitzroy.

These signals have, indeed, lately been discontinued, or rather abolished, by Government, and on the ground it is believed, that having been reported on by a scientific committee, they were found of very uncertain character.

Now it is quite true, that if the results be examined in a hypercritical manner, and according to the usual ideas connected with exact science

of the highest order, they will by no means come up to the mark. But then, high science is one thing, and storm-warnings so completely another, that it is not fair to measure its use and right to existence by a test derived from anything else of so entirely different a nature.

High science is usually so intricate and difficult, that only a chosen few in the world can fully understand it, and so slow, that only distant posterity has a chance of being benefited by it; and then, rather in the expansion of their minds than the salvation of their bodies.

But *storm-warnings*, if they are true and warn at all, are things which are appreciated by everyone, and either save or fail within a few hours. Not unfrequently, too, they actually have rescued the lives of hundreds of sailors and dozens of coasting ships, who otherwise would have put out to sea in the treacherous light breeze, just before the great gale came on, that would have driven them helpless on a rocky coast, and to speedy certain death.

If storm-warnings, then, can really accomplish this great philanthropic good, though only occasionally, the institution has a merit and use, both entirely its own, and so transcendantly excellent, whether viewed in the light of Christian charity or national economy, that many erroneous guesses, and much needless raising of fears, in fine weather—if unavoidable as the case now stands—may well be over look d in comparison.

The whole question, therefore, as to whether *the storm-warnings* ought not immediately to be resumed, mainly depends on this, viz., *can great and destructive storms be certainly predicted and timeously warned against?*

To this I answer, after studying the subject for many years, that the majority of such storms *can* be foreseen, within such limits of time as enable warning signals to be sent from a central station to all ports within reach of the electric telegraph; and further, that the more violent the coming storm, generally the more easy and certain are its preliminary indications.

The means, too, for this end, are as abundantly within our hands now, as they are likely to be for years, and even ages to come. For *storm-prediction* happily does not depend on meteorological science being improved up to be like astronomy and its prediction of eclipses (a consummation not likely to occur within the limits of the duration of the coal-fields of the country), but is an affair of concentrating at one point by telegraph frequent systematic observations of barometer, thermometer, and wind, from a number of outlying stations, the further off the better; and then having an expert practical man always on the watch at such central point to compare the observations, and literally see the storm coming.

This sort of warning is just as certain as if a shepherd in the hills could signal to a farmer in the plain below when the mountain streams had been filled with sudden rain, and he, the farmer, might expect, in a few hours, to have all his meadow lands flooded.

The principles, therefore, are plain, mechanically true, and in so far scientific; but to be worked with success, they must be carried out on a great scale, and for the whole country at once; the case, indeed, demands *centralization*; not a wise advice in most subjects for the provinces in these days to be sending up to London, but absolutely necessary under these circumstances; and inasmuch as the power of

the Government and wealth of the nation are already exceedingly centralized in that southern city, your Chamber has merely the straightforward task of requesting the Government there to undertake in this matter the responsibility and duties of their high position, and make themselves heard of round all the coasts of the empire, as a beneficent power, always watching over the uncertainties of the weather for the material benefit of the whole country, and more especially to save from sudden death "those who go down to the sea in ships."

I remain, &c., C. PIAZZI SMYTH,
Astronomer Royal for Scotland.

To James Greig, Esq., Secretary,
Chamber of Commerce, Edinburgh.

To the opinion of the Astronomer Royal of Scotland I will add a sentence from a letter to me of the Astronomer Royal of England, dated 18th July, 1867, in which he says in reference to the recommendations of the Board of Trade Committee, that storm-warnings should be continued; but that daily forecasts of weather should be discontinued. "After much consideration, I am disposed to accept this as the best that can be done at present." In another paragraph the Astronomer Royal thinks the accumulated Meteorological records in the possession of many observatories, should be examined and reduced before new observatories are established, with self-recording instruments, the more so, as self-recording observations have been practised at Greenwich for some time, either by a mechanical or photographic process.

An officer of great distinction, as a man of science, Colonel Sir Henry James, at the head of the Ordnance Survey, writes to me under date 23rd April, 1867, as follows:—

"I shall not be able to join you in a deputation to the Duke of Richmond, but you may use my name as one strongly in favour of continuing the storm-signals. Several scientific members of the Meteorological Society of Scotland have written to me disapproving of the discontinuance of storm-warnings; and the Society itself have addressed the Board of Trade on the subject, once on the 13th July, 1866, and secondly on the 28th Feb., 1867, in which last occurs the following passage:—

"Since that time (13th July, 1866) the storm-signals have been discontinued, a measure which the memorialists very deeply regret, as prejudicial, not only to the shipping and mercantile interest, but also to the progress of Meteorological Science." And in a letter to me, 17th July, 1867, I am assured that the President and Council of the Meteorological Society of London, have similarly condemned the suppression of storm-warnings."

But it is not necessary to multiply evidence after the expression of opinion by such distinguished authorities; I have also many letters from persons strangers to me, less scientific, one of

whom very pertinently remarks from Glasgow, on the 7th August. "In the first place the Meteorological Committee decline giving storm-warnings, but say they are collecting information! Why not continue the storm-warnings, till that information is completed? We know that the warnings of Admiral Fitzroy were the means of saving much life and property. Why not continue to do so?" But the above evidence testifies to the fact, that men of science disapprove of the suppression of storm-warnings, and desire their restoration. The next question is, whether maritime and commercial men, and particularly the poor fishermen on our coasts, consider that the storm-warnings of Admiral Fitzroy were of advantage to them, and here the evidence is overwhelming—to an extent even that I can only briefly quote it.

At page 37 of the Report of the Committee of the Board of Trade, are the replies of official persons at the following ports, of whom enquiry had been made by the Board of Trade to learn what was the opinion of seafaring men with respect to the value of Admiral Fitzroy's Storm Warnings, Wick, Aberdeen, Dundee, South Shields Ship Owners' Society, and South Shields, The Pilots, Sunderland, West Hartlepool, Great Yarmouth, Deal, Plymouth, Liverpool Mercantile Marine Association, and Liverpool Dock Local Marine Board—at Wick signals had not been hoisted; but at all the other ports, with the exception of Plymouth, there is an expression of approval and confidence in them. I will quote only two of the replies from Dundee, Mr. Anthony Todd, Examiner of the Local Marine Board says:—

"The correctness of the storm-signals at this port is a matter of common remark; they are very generally appreciated."

At South Shields the Pilots reply through Mr. Ingram, M.P., that

"The storm-signals are of great importance and of great practical value as affording timely and very correct intimation of coming gales and storms."

The other replies are similar, with an assurance of a growing confidence in them.

Having learnt that subsequently to the date of the Report of the Committee of the Board of Trade, that memorials had been sent to the Board of Trade, I moved for their being laid upon the table of the House of Commons, which was accordingly done on the 5th of April, 1867. The memorials are from the Scottish Meteorological Society, Dundee Harbour Trustees, Manchester Chamber of Commerce, Glasgow Local Marine Board, Dundee Local Marine Board, Liverpool Underwriters' Association, Provost and Magistrates of the Borough of Leith, Shipowners of Leith,—Underwriters and Shipowners of Glasgow and Greenock, and from the Rev. F. Bedford, of Silloth, Cumberland, and from Lieut. Wharton, of Grimsby, &c., and a Second Memorial from the Meteorological Society of Scotland.—All

these memorials are to the same effect as the answer to the Board of Trade from other ports and localities, printed at page 37 in the report of the committee of the Board of Trade. I will only quote an extract from the letter of the Rev. F. Bedford, F.R.S., of Silloth, in Cumberland. He says, "I think that if the President and Council of the Royal Society could have witnessed the growing attention paid to the Signals by the sailors, and were aware of their accuracy, they would not have recommended even a temporary suspension."

The whole of these memorials were transmitted to the Committee of the Royal Society, and the Parliamentary return does not contain any reply to them.

I come thirdly to the Petitions to the House of Commons, in augmented testimony of the importance attached to Storm Warnings. These Petitions were presented subsequently to the Report of the Committee of the Board of Trade, and the refusal of the Committee of the Royal Society to continue Storm Warnings being known. The Petitions are 28 in number, five under corporate seal, and 23 others with 1744 signatures from ports and fishing villages. The signatures of poor fishermen largely prevail, but they are signed also by most of the educated classes of the several localities, magistrates, clergymen, medical men, &c., and of course by all shipowners, and those having maritime interests. They are from ports extending from Wick along the eastern coast of Scotland to Berwick. They have one common prayer for the restoration of Storm Warnings. It will suffice to give two or three of them, and first from Dundee.

"The humble Petition of the Trustees of the Harbour of Dundee, incorporated by Act of Parliament, under their common seal,

Sheweth,

"That your Petitioners some time ago learned with deep regret that the cautionary storm warnings which had been in use to be exhibited for many years past were to be suspended, and these signals have since been withdrawn. The reasons assigned for this step humbly appear to your petitioners altogether insufficient. These signals, according to the testimony of those engaged in seafaring and fishing employments, have been productive of much benefit and convenience, and as they confidently believe have proved the means of saving much property and many valuable lives. It is possible that more extensive and accurate observation of meteorological phenomena, and more perfect instruments for indicating atmospheric changes, may lead to an improved system of signals. But surely this furnishes no valid reason for suspending the present signals until a better system shall have been framed to take their place. And your Petitioners feel it to be their duty to represent to your honourable House the danger which will arise from the discontinuance of the storm signals.

Your Petitioners therefore humbly but earnestly entreat your honourable House to take the subject into your consideration, and to relieve the apprehension of the seamen, fishermen, and seafaring classes,

by ordering that the storm signals be continued until another and better system of signals shall have been provided to supply their place."

CHARLES PARKER, Provost and Chairman.

8th April, 1867.

"The Petition of the Provost, Magistrates, and Council of the burgh of Leith,

Humbleth Sheweth,

"That the Petitioners, as the municipal representatives of the large trading and commercial community of Leith, take a deep interest in all matters connected with the shipping of the port, and they have learned with regret that the storm-warning signals which have been in use for some time past, have been discontinued.

That these signals were of great benefit, not only to shipowners but to shipmasters and others connected with the sea, by giving timely warning of apprehended storms, and thereby allowing precautions to be taken for the prevention of risk to life and property.

Besides the ordinary shipping trade of the port there is a large trade in fish carried on by boats connected with the port, and the storm-warning signals have often been the means of saving many of these boats and the lives of their crews from danger, and in many instances from total loss.

The Petitioners being satisfied that the discontinuance of the storm-warning signals has deprived merchants, shipowners, and the sea-faring community generally, of a great boon, have respectfully but earnestly to press on your honourable House the urgent call which exists for having these signals resumed without delay.

And they therefore pray that it may please your honourable House to authorise and direct the Board of Trade to take such steps as may be considered best for having the storm-warning signals referred to resumed without delay, or to do otherwise in the premises as to your honourable House shall seem meet."

JAMES WATT, Provost.

10th April, 1867.

"The humble Petition of the Inhabitants of Newhaven, in the county of Edinburgh, Scotland,

Sheweth,

"That your Petitioners are deeply impressed with a sense of the great value of the system of storm warnings formerly issued by the Board of Trade under the superintendence of the late Admiral Fitzroy, and latterly of Mr. Babington.

That your Petitioners would gratefully record the benefit received from these storm warnings, which taken in connection with the barometer placed publicly on the harbour, were frequently the means of saving life and property; and that, from the cases of failure becoming gradually fewer, greater confidence was placed in their trustworthiness.

That your Petitioners deeply regret the suspension of these storm warnings, which they cannot but regard as injurious to the interests of

fishermen, traders, and others, connected with this as well as with the other seaports of the country.

Wherefore your Petitioners earnestly hope that your honourable House will be pleased to consider the prayer of this Petition, and give orders that the issue of storm warnings may be resumed."

WM. GRAHAM, Min'r.
JOHN MACNAB, J.P.
WILLIAM FINLAY. M.D.
Signed by 167 Fishermen.

"The Petition of the undersigned Fishermen, Shipmasters, and others in the seaport town of Eyemouth, in the county of Berwick,

Humbly sheweth,

"That for three years your Memorialists enjoyed the benefit of storm-signals, which were supplied to them by the meteorological department of the Board of Trade, and which were hoisted whenever any telegram from the office in London announced the probable approach of a storm.

That for some months past these storm-signals have not been hoisted, in consequence of there being no telegrams sent as formerly from London.

That your Memorialists willingly paid certain expenses connected with the receipt of the telegrams and the hoisting of the signals, as from experience they found the great benefit to them, in receiving warnings of bad weather, which are of so much consequence to the Memorialists.

That during the three years that the storm-signals were in use the warnings given were in most cases observed to be correct, as bad weather followed; and the Memorialists feel satisfied that great loss is sustained by them, and by all pursuing the same vocation as themselves along the east coast of Scotland, by the suspension of these storm signals.

That your Memorialists would esteem it a great boon to themselves if these signals were resumed.

They therefore pray your honourable House to express an opinon in avour of the resumption of these storm-signals."

WM. WRIGHT,
JAMES WALTMAN,
GEO. COLLIN, &c.

"The Petition of the Chairman, Directors, and Members of the Aberdeen and North of Scotland Trade Protection Society,

Humbly sheweth,

"That your Petitioners, being extensively engaged in trade and shipping, feel deeply interested in obtaining, on reliable grounds, timeous warning of impending storms, which are not only of frequent occurrence on this part of the Scottish coast, but also, from the total want of harbours of refuge, very destructive to life and property.

That by the report of the Meteorological Committee of the Board of Trade it appears that the storm signals heretofore in use, during a

period of three years, have been found correct as to impending gales in 75 cases out of 100, and may therefore, to a great extent, be considered reliable information for the guidance of seamen and fishermen in the prosecution of their several employments.

That the proposal of supplying, by means of a committee of the Royal Society, data, to be interpreted by local boards at the outports, appears to your Petitioners to be inexpedient and impracticable, as leading in every instance to much delay in promulgating the necessary warning; and in not a few instances, from a conflict of opinion amongst the members of the local boards as to the proper interpretation of these data, entirely to frustrate the object in view.

Your Petitioners therefore earnestly pray that your honourable House would take this important subject into its early consideration, and, by ordering a return to the practice of intimating impending gales, by storm signals from a central point to the outposts as heretofore, afford that protection to seamen engaged in the coasting trade, and particularly to fishermen who prosecute their employment in open boats, which they so much stand in need of."

JAMES FORBES, Chairman.

12th March, 1867.

I presume from the evidence adduced, I have satisfactorily proved the importance of storm warnings, and it now remains to consider their "practicability," which ought to be deemed a superfluous labour, considering that the Committee of the Board of Trade reported officially that Admiral Fitzroy had practised them for three years, had issued 405 warnings, and had been right 305 times with regard to the coming storm; that is to say, 75 out of every 100 predictions were right, and only 25 wrong. But in the direction in which the wind would blow being right only 62 times out of 100—which approximate accuracy is, however, somewhat remarkable, considering that great storms rotate as they proceed. But of the practicability of foretelling storms, I offer the evidence of one of the officers employed by the Scientific Committee, Captain Toynbee. At a large meeting of the Society of Arts, over which I presided, Captain Toynbee demonstrated on a black board the method of foretelling storms to the satisfaction and conviction of the meeting. It was the method followed by Admiral Fitzroy, and so far from being empirical, it is a simple statement of facts, for appreciating which it does not need science to be capable. Captain Toynbee took London as his central station, which is in telegraphic communication with certain barometric observatories on such radii from London as telegraphic lines permitted receiving at eight o'clock every morning, simultaneously, telegraphic messages of the state of the barometer, thermometer, and direction of the wind from all the stations, and, two or four hours later, the then state of the same barometer from the same observations—and a glance of the eye over the record served to show at once in what direction the diminished pressure was proceeding. Take, for example, Valentia on the West Coast of Ireland, as most of the severe storms come

from the Atlantic. At 8 A.M. the barometer is falling, but not at Dublin, Belfast, or Falmouth. Two or more hours afterwards, the Valentia Barometer is still falling—and the Dublin, Holy head, and Liverpool have commenced to fall, but not at Belfast or Falmouth; the diminished pressure is, therefore, travelling from west to east, within the parallels of the latitude of Belfast and Falmouth, and all places lying within those parallels can, from these facts, be warned of the coming storm—that is to say, from Shields to the mouth of the Thames. Take another example. Telegraphs are received in London of the fall of the barometer at Valentia, and, successively, at Belfast, Port Patrick, and Glasgow—but the barometers are unaffected at Holyhead, Pembroke, Falmouth, and London, the diminished pressure is evidently therefore travelling N.E, and in a certain number of hours will reach Edinburgh, Dundee, Montrose, and Aberdeen. Take a case from the N. to the S. The barometer is falling at Aberdeen, and subsequently at Dundee, Greenock, Glasgow, Edinburgh, Berwick, Tynemouth, and Port Patrick, but is unaffected at London, Pembroke, Barnstaple, and generally in the South of England, the diminished pressure is therefore travelling from N. to S. over the whole surface of England, and its arrival in London may be anticipated within a limited number of hours Examples need not be multiplied; all that is required is simultaneous observations of the barometer by telegraph, renewed at intervals of two to four hours, and a careful comparison of the different barometers to mark the line the diminished pressure is taking, and as diminished pressure progresses slowly, electricity can tell us many hours beforehand of its approach. Indeed, by means of the two Atlantic cables, we might have warning of storms from America a week before their arrival. There is no mystery or even science in the matter, it is a mere comparison and consideration of physical facts, and the exercise of a moderate judgment in their application. It is therefore the mere predantry of science to say that storm warnings cannot be given by scientific men because they would be based upon empirical data. The means exist at the present moment for predicting storm warnings with tolerable accuracy, the will only is wanting. The Scientific Committe propose the establishment of eight new observatories, with self-recording instruments, and the expenditure of £10,000 per annum for 15 years, and after the expenditure of £150,000 the Committee may not be nearer the solution of the question, than the numerous observations under distinguished scientific men which have been in operation for a century past. One thing which the Scientific Committee can supply has been done, that is, to take upon itself a grave responsibility in refusing to restore the storm warnings. In 1865, from a Parliamentary return we learn that 2,012 vessels of a tonnage of 377,000 tons were lost or damaged, and 698 lives were lost, and the losses might have been greater but for the storm warnings of

Admiral Fitzroy. Mr. Baxindell, at a meeting of the Philosophical Society of Manchester, on the 30th April, 1867, stated that four Liverpool vessels which were lost in the storm of the 10th April would not have put to sea had the "storm warnings" been continued. Three of these vessels were wrecked on the Lancashire coast, and one foundered in the North Sea with all hands on board!

The Scientific Committee of the Royal Society receive daily telegrams from stations in the British Isles, and from abroad, supplying data, if used as was done by Admiral Fitzroy, for the warning of coming storms. These data, under the title of Meteorological Reports, are supplied daily to the *Times* newspaper; but instead of informing the public of the state of the weather as it *really is*, only tells the public what the weather *has been the day before;* information about as interesting as the contents of an old newspaper! The shipping interests do not trouble themselves about the wind that blew yesterday, but what is blowing at the moment, and what is likely to blow to-morrow!

I have now furnished ample evidence in justification of the title of my paper, "Storm Warnings, their importance and practicability," and it rests with the members of the Scientific Committee of the Royal Society in charge of the Meteorological Department of the Board of Trade to determine whether they will continue to act upon individual opinions in opposition to the mass of scientific and other evidences I have produced, and continue the suspension of storm warnings, or sacrifice their own views to the claims of humanity and the just expectations of the public interests."

On the conclusion of the reading of the above paper, Mr. Milne Home, chairman of the Council of the Meteorological Society of Scotland, moved in the section the following resolution, which was seconded by the Duke of Buccleugh, K.G., and carried by acclamation by some 500 members and associates.

Resolved, "That this Section apply to the Council of the British Association to make a communication to Her Majesty's Board of Trade, urging them to institute arrangements for causing the Storm Signals to be continued."

R. S. Royal Asiatic Society, London
from the Author

ADMINISTRATION

OF

CIVIL JUSTICE IN BRITISH INDIA,

FOR A PERIOD OF FOUR YEARS,

CHIEFLY FROM 1815 TO 1818, BOTH INCLUSIVE.

BY

COLONEL SYKES, F.R.S.

ADMINISTRATION

OF

CIVIL JUSTICE IN BRITISH INDIA,

FOR A PERIOD OF FOUR YEARS,

CHIEFLY FROM 1845 TO 1848, BOTH INCLUSIVE.

BY

COLONEL SYKES, F.R.S.

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From the JOURNAL OF THE STATISTICAL SOCIETY OF LONDON.
JUNE, 1853.

Administration of Civil Justice in British India, for a period of Four Years, chiefly from 1845 *to* 1848, *both inclusive.* By COLONEL SYKES, F.R.S.

I SUBMITTED to the Statistical Society, on the 20th March, 1843, tables of the administration of civil and criminal justice in British India for a period of four years, together with details of the nature and constitution of the several courts, their functions and powers. On the 11th August, 1848, I submitted to the Statistical Section of the British Association at Swansea*, a similar series of four years, with a view to show how far the results of the two periods corresponded. I now submit a third series of four years, embracing in all twelve years; and, as the whole will give the numerical details of a long period, if the results be found to have a certain degree of uniformity it may be legitimately asserted that, to a certain extent, normal conditions have been established. I am glad to say, that these relations and consequences are manifest in the third series; and it may be broadly stated that the Act of 1833, enjoining upon the East India Company the extensive employment of natives in places of trust and responsibility, has been eminently successful, so far as their aid in the administration of justice is concerned. The present tables from the different Presidencies, like the former, want a common character; but, as the forms of tables which were sent to India some years ago to be adopted by all the Company's courts in India, have now been directed to be brought into use, it is believed, that for the future the uniformity of system will admit of rigid comparisons being established, not only between one court and another of the same Presidency, but between the returns from the different Presidencies. Instead of giving the results of the operations of the several tribunals for each year separately, I have thought it better, for the sake of condensation, to give the aggregate results of the four years, 1845-6-7-8, and the per centages upon the aggregate. And first with respect to the Bengal Presidency.—The total number of cases admitted and readmitted in these four years, inclusive of 44,920 depending, on the 1st January, 1845, was 540,327. The total number disposed of in this period was 431,679, and 62,777 were transferred between the different courts, leaving undisposed of, on the 31st December, 1848, an aggregate of 45,877† cases, a small increase on the first three years; the chief accumulation of arrears having taken place in the courts of the Zillah and city judges, and Principal Sudder Ameens, although the city and Zillah judges transferred to other courts annually rarely less than 10,000 cases. The Sudder Ameens diminished their arrears from 1,650, in 1845, to 1,381, in 1848; and the Moonsiffs diminished theirs from 35,449 cases to 31,078 cases. The two minor courts, therefore, got through their business faster than the superior courts, but this may be attributed to their limited jurisdiction for small amounts. One very satisfactory feature in the returns is, the very large number of cases which were mutually

* See *Journal of Statistical Society*, February, 1849.

† There is a typographical error of six suits somewhere.

arranged; even in the great interests at stake before the Sudder Adawlut, by Table VIII., it would appear that 45 cases were settled to the satisfaction of both parties; and in the lower courts there were no less than 51,186 cases. The defaults are not satisfactory, for there are 67 in the ultimate court of appeal, and 101,616 in the lower courts, seeming to indicate that there must have been a great amount of vexatious litigation. The per centage of the work done of the 431,679 cases by the different courts was as follows :—

Tribunals.	Number of Cases determined in Four Years.	Per Centage of whole work done.	Or One in
Sudder Adawlut	1,785	0·41	242 cases
Zillah and City Judges	13,119	3·04	33 ,,
Principal Sudder Ameens	34,999	8·11	12·3 ,,
Sudder Ameens	8,314	1·92	52·0 ,,
Moonsiffs	373,462	86·52	1·1 ,,
Total	431,679	100·00	

We hence see that the highest appellate court did not do a-half per cent. of the whole work, and only one in every 242 cases came to the court. The European Zillah judges did 3 per cent. of the work, and the remaining 96½ per cent. of the work was done by the native judges; the principal Sudder Ameens 8 per cent.; the Sudder Ameens less than 2 per cent., and the Moonsiffs 86½ per cent. Why the Sudder Ameens should have done less work than the European Zillah judges is not explained. The above remarks relate to original and appeal suits; but the quality of the work done will best be shown by the respective amounts of the appeals from the decisions of the tribunals—as exhibited in the following table:—

Bengal—Appeals against Decisions of

	Number of Suits Appealable in Four Years.	Number Appealed in Four Years.	Number Reversed or Modified.	Per Centage Appealed.	Per Centage Reversed or Modified of Appeals.	Per Centage Reversed to Total Appealable Cases.
Zillah Judges	....	1,080	142	....	13·2	....
Principal Sudder Ameens	28,520	3,669	1,271	12·8	34·6	4·4
Sudder Ameens	6,057	2,301	797	37·9	34·5	13·1
Moonsiffs	230,482	34,964	11,207	15·1	32·0	4·9

From the Zillah judges' courts the total number of appeals was 1,188*, but as 108 were depending at the end of 1848, only 1,080 appeals were decided by the Sudder Adawlut, of these, 13·2 per cent

* Vide Table III.

were reversed or modified; but as 382 cases were remanded to be re-tried, the want of confirmations against the decisions of the Zillah judges really amounted to 48·5 per cent. The Principal Sudder Ameens had 3,669 cases appealed to the higher courts, and 1,271 reversed or modified; the per centage on the whole appealable cases was, therefore, 12·8 per cent., the per centage of the appealed cases reversed was 34·6 per cent.; but the per centage of reversals to the whole appealable cases was only 4·4 per cent. The Sudder Ameens appear to have been the least efficient of all the judicial officers, European or native, for in only 6,057 appealable suits, 2,301 were appealed, and 797 reversed or modified; so that the per centage appealed was 37·9, the reversals 34·5 per cent., and the per centage of reversals to the whole appealable cases, 13·1. Although the per centage of the appealed cases reversed is not greater than that of the Principal Sudder Ameens, yet the per centage of the appealed cases, and of the reversals, is so much greater than in any other court, that there would seem to be some cause for it, which demands inquiry. The great mass of business was performed by the lowest courts, those of the Moonsiffs, and very creditably to them. Out of 230,482 cases, only 15·1 per cent. were appealed; and though 32 per cent. of the cases so appealed were reversed or modified, it was less than in any other court, and the reversals were less than 5 per cent. of the whole appealable suits. Table V. gives the average duration of a suit during the four years under review in the different courts; and considering the great interests with which the Sudder Adawlut only acts, a chancery suit, which ranges in duration from 1 year 4 months and 16 days, in 1846, to only 9 months and 12 days, in 1848, may not be looked upon as unreasonably long. In 1848 the Zillah judges took 1 year 8 months and 27 days to each suit; but in 1845 the time was only 8 months and 11 days. The Principal Sudder Ameens increased the average time of a suit gradually from 6 months and 23 days to 9 months and 18 days. In a similar manner the Sudder Ameens increased theirs from 4 months and 17 days to 7 months and 13 days, in 1848: an additional subject for inquiry. The Moonsiffs, with their mass of business, diminished the average time of a suit from 4 months and 10 days to 3 months and 28 days.

The suits appealed to the Sudder Adawlut in four years amounted to 2,120, inclusive of 420 depending, on the 1st January, 1845; of this number, 1,785 were disposed of, leaving 335, on the 1st January, 1849; so that this court had not allowed any accumulations of arrears. The value of these suits was nearly 5½ millions sterling, 5,479,124*l.* The value of the original suits before the other courts was nearly 16½ millions sterling, 16,447,0[illegible]5*l.*; and the value of the appeals before these courts was 1,396,486*l.* Table VII. gives the value of the suits before the Sudder Adawlut arranged in five denominations of value; and it may cause surprise to find, that 323 of these are for sums under 50*l.*, while for sums above 1,000*l.* there are 521 suits.

The subjects of the suits chiefly, as at the other Presidencies, relate to debt and land; but, unlike the other Presidencies, there is a disproportionate number connected with religion, caste, &c.

As the population of the Regulation Provinces of Bengal is estimated at 36,848,981, there was one suit to every 341 souls annually, or one suit to every 75¾ families, at 4½ souls to a family.

TABLE I.—*Operations of the several Tribunals.—Original and Appeal Suits.*

	Depending 1st January.				Admitted and Re-admitted.				Disposed of.				Transferred to other Jurisdictions.				Depending 31st December.			
	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.
Sudder Dewanny Adawlut	430	446	472	496	383	286	551	480	357	260	527	641	...	...	...	...	446	472	496	335
Zillah and City Judges	2,864	3,231	4,048	6,016	14,686	14,776	14,917	13,847	3,503	3,430	3,119	3,067	10,816	10,529	9,836	10,723	3,231	4,048	6,016	6,073
Principal Sudder Ameens	4,587	5,298	5,221	5,891	10,695	9,126	9,594	10,699	8,994	8,766	8,209	9,030	940	437	715	550	5,298	5,221	5,891	7,010
Sudder Ameens	1,650	1,400	1,510	1,266	2,923	2,755	2,000	1,845	2,509	2,460	1,817	1,528	664	185	427	202	1,400	1,510	1,266	1,381
Moonsiffs	35,449	35,269	33,676	33,084	103,599	96,800	96,359	89,086	98,960	94,398	92,795	87,309	4,819	3,995	4,156	3,783	35,269	33,676	33,084	31,078
Total	44,920	45,644	44,927	46,753	132,286	123,743	123,421	115,967	114,323	109,314	106,467	101,575	...	...	...	...	45,644	44,927	46,753	45,877

TABLE II.—*Appellate Jurisdiction over the several Classes of Native Judges.*

	Appealable.				Appealed.				Affirmed.				Modified and Reversed.			
	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.
Principal Sudder Ameens	7,518	7,208	6,618	7,176	919	846	913	992	498	488	302	399	371	335	265	300
Sudder Ameens	1,776	3,765*	1,348	1,168	720	650	498	433	370	314	261	219	226	212	197	162
Moonsiffs	59,328	58,104	58,699	54,351	8,714	8,641	9,004	8,605	4,071	4,046	3,612	3,752	2,757	3,041	2,706	2,703

* As this exceeds the whole number of cases decided, it is probably a mistake for 1,765.

TABLE III.—*Appellate Jurisdiction of Sudder Dewanny Adawlut over Zillah Judges and Principal Sudder Ameens.*

	Number of Appeals.				Affirmed.				Reversed or Modified.				Remanded for Re-trial.				Otherwise Disposed of.				Pending.			
	1845	1846	1847	1848	1845	1846	1847	1848	1845	1846	1847	1848	1845	1846	1847	1848	1845	1846	1847	1848	1845	1846	1847	1848
From Zillah Judges	300	213	355	320	19	19	33	54	20	34	38	50	123	30	127	102	2	7	6	6	136	123	151	108
From Principal Sudder Ameens	485	505	637	613	99	63	106	123	27	32	54	82	87	51	126	162	19	19	16	24	303	340	335	222

TABLE IV.

Description of Original Suits.

	Connected with Land.	Connected with Debt.	Connected with Caste, Religion, &c.	Connected with Indigo, Sugar, &c.
1845.....	25,100	65,824	11,617	713
1846.....	25,333	58,035	12,295	669
1847.....	24,681	57,210	12,228	662
1848.....	23,056	53,837	11,396	446

TABLE V.

Average Duration of a Suit before the several Tribunals according to the Average Number of Decrees.

	1845.			1846.			1847.			1848.		
	Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.
Sudder Dewanny Adawlut	1	2	13	1	4	16	1	4	28	0	9	12
Zillah and City Judges.....	0	8	11	0	11	12	1	6	27	1	8	27
Principal Sudder Ameens.....	0	6	23	0	6	23	0	7	29	0	9	18
Sudder Ameens.....	0	4	17	0	5	13	0	5	21	0	7	13
Moonsiffs	0	4	10	0	4	2	0	4	3	0	3	28

TABLE VI.

Total Value of Regular Suits depending at the end of the Year.

	1845.	1846.	1847.	1848.
	Rupees.	Rupees.	Rupees.	Rupees.
Before Sudder Adawlut	2,01,20,347	94,61,347	1,42,54,365	1,09,55,187
Other courts—Original	4,28,79,276	4,99,78,036	3,63,23,474	3,52,89,667
„ „ Appeal	19,62,691	18,59,963	71,92,446	29,49,760

TABLE VII.

Value of Suits before Sudder Dewanny Adawlut.

	Below 500 Rupees.		Above 500 Rupees.		Above 1,600 Rupees.		Above 5,000 Rupees.		Above 10,000 Rupees.		Total.
	Number of Suits.	Value.	Number of Suits.	Value.	Number of Suits.	Value.	Number of Suits.	Value.	Number of Suits.	Value.	
		Rupees.		Rupees.		Rupees.		Rupees.		Rupees.	
1845...	78	16,379	55	59,864	61	1,64,193	126	9,64,617	136	1,89,16,314	2,01,20,347
1846...	76	13,953	65	65,691	49	1,57,730	138	10,66,088	144	81,57,886	94,61,347
1847...	109	16,909	60	57,017	53	1,71,462	135	10,05,846	139	1,30,03,141	1,42,54,365
1848...	60	11,110	53	62,454	43	1,30,867	77	6,06,992	103	1,01,43,764	1,09,55,187
Total	323	57,350	233	245,026	196	624,342	476	3,643,543	521	5,0221,105	5,4791,246

TABLE VIII.

Number of Suits Dismissed from Default and Adjusted or Withdrawn.

	Years.	Defaults.	Adjusted or Withdrawn.
Sudder Courts.....	1845	17	10
Ditto	1846	15	12
Ditto	1847	13	9
Ditto	1848	22	14
Total		67	45
Other Courts	1845	27,319	14,797
Ditto	1846	25,175	13,625
Ditto	1847	24,630	11,783
Ditto	1848	24,492	10,981
Total		101,616	51,186

Administration of Civil Justice in the North-West Provinces, or Agra Government, for a period of Four Years, from 1845 *to* 1848, *both inclusive.*

Making the several additions and deductions for receipts and transfers in the several courts of the North-West Provinces, the total cases, original and appeal, for decision, in the four years, from 1845 to 1848, both inclusive, was 297,169, distributed as follows:—

	Total Number of Suits in Four Years for Decision.	Total Number Decided by each Court.	Per Centage of work done by each Court to whole number.	Per Centage of work done by each Court of the Cases decided.	Or One Case in
Sudder Adawlut	901	844	0·28	0·31	330
Judges.....	17,829	15,497	5·21	5·56	11·5
Principal Sudder Ameens....	24,058	22,039	7·42	7·90	12·6
Sudder Ameens	27,769	26,178	8·81	9·40	10·6
Moonsiffs.....	226,612	214,037	72·02	76·83	1·3
Total	297,169	278,595	100·00*	100·00	....

* Including 6·26—the per centage of work undone.

Although the Supreme Court, which is exclusively an appellate court, only decided about three decimals per cent. of the whole number of cases judged in four years, the mere per centage of labour is necessarily no type of the great interests at stake, nor of the deliberation required. And the same may be said of the judges, who did little

more than 5½ per cent. of the whole work; and as of the whole number of cases, 15,497, decided by the judges, only 271 were original suits: the work done was upon appeals. About every 330th suit was appealed to the Sudder Adawlut or chancery, and about every 11th to the European judges. The Principal Sudder Ameens have also appellate as well as original jurisdiction; and the appeals received by their courts approached the original suits in the proportion of 11,044 to 12,402. They appear to have done nearly 8 per cent. of the whole work, and every 12·6 suit came under their cognizance. The Sudder Ameens have not appellate jurisdiction, and they did nearly 9½ per cent. of the whole work, and every 10·6 suit came before them. As might be expected from the number of the courts, and the small interests involved, the great mass of work was done by the Moonsiffs, amounting to 72 per cent., which, however, is much less than at the other Presidencies. The total per centage of the work done by the native judges was 94·14; and the only mode of estimating the quality of this work, and the satisfaction it gave, is by the number of appeals and reversals.

Appellate Jurisdiction over the several Tribunals.

	Appealable Suits.	Appealed.	Per Centage Appealed.	Reversed or Modified.	Per Centage of Appealed Cases Reversed or Modified.	Per Centage of Reversals or Modifications to all Appealable Cases.
Judges	15,742	374	2·3	296	79·1	1·9
Principal Sudder Ameens	22,478	4,776	21·2	1,301	27·2	5·8
Sudder Ameens	19,098	3,150	16·4	1,232	39·1	6·4
Moonsiffs	144,612	21,892	15·1	6,810	31·1	4·7
Total	201,930	30,192	14·95	9,639	31·90	4·77

The above table exhibits some features with respect to the judges, which the official returns do not assist me to explain. In four years the European judges had only 271 original suits to decide, consequently the remainder were cases of appeal from the lower courts to the judges; from these decisions on the appeals only 374 cases, or 2·3 per cent., were appealed to the highest tribunal; but the reversals (296) of these more than doubled the per centage of the most unfavourable of the lower courts, amounting, in fact, to 79·1 per cent., or nearly four-fifths of all the cases appealed. I am disposed to think there must be some error in the tables. The Principal Sudder Ameens, who have appellate as well as original jurisdiction, appear to have had more appeal cases referred to them than original suits. The per centage appealed was 21·2, but the reversals of these was smaller than in any of the other courts, amounting to 27·2 per cent.; that of the judges being 79·1. The per centage of the reversals or modifications to the whole appealable cases was 5·8 per cent. The Sudder Ameens

and Moonsiffs, who have only original jurisdiction, had a smaller per centage appealed than the Principal Sudder Ameens, being respectively 16·4 per cent. and 15·1 per cent.; but the Sudder Ameens had a larger proportion, 39·1 per cent., of reversals than any tribunals, excepting the judges, while the per centage of reversals to all the appealable cases, 6·4 per cent., was greater than in any other courts except those of the judges. On the whole, the Moonsiffs appear to have the least to be said against them: in the smallest per centage, 15·1 of appeals, and of reversals 4·7 per cent., to the whole appealable cases, excepting the judges. The per centage of reversals of all the *appealable* cases before all the courts was 4·77 per cent.

The next important branch of the administrative processes is the duration of a suit; and in this all the judges, whether European or native, appear to considerable advantage. The average duration of a chancery suit ranged, in the different years, from 5 months and ·085 days to 6 months and ·118 days. The judges, in 1845, got through a suit in 5 months and ·043 days; but in 1847 and 1848, the duration of the suits ranged from 7 to nearly 8 months. The Principal Sudder Ameens varied in their expedition from 3 months and ·343 days, in 1845, to 4¾ months, in 1847. The Sudder Ameens were quicker than any of the preceding courts, the duration of a suit ranging from 2 months and ·853 days, in 1848, to 3 months and ·480, in 1846; and these judges, unlike the same class in Bengal, did the greatest amount of work except the Moonsiffs. The speediest judges were the Moonsiffs, with the smallest per centage of appeals and reversals; the duration of a suit in these courts ranged from 2·692 months, in 1847, to 3·134 months, in 1845. The value of property litigated was very considerable. The highest court of appeal, the Sudder Adawlut, in four years passed judgment upon 670,417*l.*; and the amount before the lower courts was 4,048,907*l.*, including 349,298*l.* appealed, the total amount, therefore, being 4,719,304*l.* sterling. The total amount appealed was 1,019,715*l.*, or 21·6 per cent. of the whole amount upon which judgment was passed, a result favourable to the administration of civil justice, considering the facilities and cheapness of appeal in India.

The suits chiefly related to debt, 293,160, and next land, 65,091. The people would appear to live very amicably together with respect to religious matters, as in four years there were only 332 suits about polemics, caste, or endowments. Table IV. shows the number of suits determined in favour of the plaintiffs and defendants respectively, and the very great preponderance of decisions in favour of the plaintiffs indicates that their litigation was neither frivolous nor vexatious. As the population of the North-West Provinces, by the revised census of 1848, was 23,799,668, and the total number of suits in four years was 297,189, it follows there was one suit to 319 souls annually; and, as a family averages about 4½ souls, every 71 families had a law suit annually.

Civil Justice, North-West Provinces, for 1845, 1846, 1847, and 1848.

TABLE I.

Sudder Dewanny Adawlut.

	Depending 1st January.	Admitted.	Total.	Decided.				Otherwise Disposed of.				Grand Total Decided and otherwise Disposed of.	Depending 31st December.
				Confirmed.	Reversed.	Modified.	Total.	Returned.	Dismissed.	Adjusted.	Total.		
Regular Appeals, 1845	87	97	184	29	18	20	67	15	7	10	32	99	85
Ditto 1846	85	63	148	46	16	10	72	13	4	2	19	91	57
Ditto 1847	57	44	101	22	10	9	41	7	1	3	11	52	49
Ditto 1848	49	83	132	22	13	5	40	6	5	4	15	55	77
Special Appeals, 1845	46	128	174	33	32	7	72	68	2	....	70	142	32
Ditto 1846	32	103	135	21	22	6	49	51	....	....	51	100	35
Ditto 1847	35	163	198	30	17	11	58	96	4	....	100	158	40
Ditto 1848	40	133	173	33	16	8	57	90	....	....	90	147	26
Total	....	814	....	236	144	76	456	....	23	19	388	844	....

TABLE II.

Subordinate Courts.

Number of Judges.	Court.	Depending 1st January.	Admitted.	Received by Transfer from other Courts.	Transferred to other Courts.	Disposed of.	Depending 31st December.
	Judges.						
19	1845 Original	4	88	492	572	10	2
	1845 Appeals	1,664	6,723	84	2,816	3,980	1,675
19	1846 Original	2	63	880	936	3	6
	1846 Appeals	1,675	6,520	99	2,548	3,900	1,856
19	1847 Original	6	58	92	135	8	13
	1847 Appeals	1,856	6,565	83	2,538	3,608	2,357
19	1848 Original	13	71	548	612	11	9
	1848 Appeals	2,357	7,058	75	3,181	3,977	2,332
	Total	....	28,814	2,353	13,338	15,497	....
	Principal Sudder Ameens.						
22	1845 Original	975	2,254	1,045	221	3,026	1,027
	1845 Appeals	610	....	2,946	148	2,809	599
22	1846 Original	1,027	2,085	816	122	2,901	905
	1846 Appeals	599	2	2,609	122	2,392	696
22	1847 Original	905	2,006	1,183	152	2,621	1,321
	1847 Appeals	696	....	2,686	126	2,559	697
22	1848 Original	1,321	1,988	651	106	2,815	1,039
	1848 Appeals	697	....	3,235	36	2,916	980
	Total	....	9,920	15,171	1,033	22,039	....
	Sudder Ameens.						
14	1845—Original	1,339	5,668	1,255	206	6,300	1,756
15	1846— Do.	1,756	5,272	1,353	193	6,347	1,841
15	1847— Do.	1,841	5,548	1,446	122	6,848	1,865
15	1848— Do.	1,865	5,306	1,229	126	6,683	1,591
	Total	....	23,133	5,283	647	26,178	....
	Moonsiffs.						
97	1845—Original	12,223	56,733	1,271	2,435	53,761	14,031
104	1846— Do.	14,031	53,075	2,557	3,724	53,001	12,938
99	1847— Do.	12,674	55,999	1,206	2,890	54,713	12,276
99	1848— Do.	12,276	53,395	1,387	2,185	52,562	12,311
	Total	....	231,425	6,421	11,234	214,037	....

The above returns do not include the Hill Provinces, and there are some immaterial graphical or typographical errors in the number of suits depending.

TABLE III.

Appellate Jurisdiction over the several Tribunals.

	Appealable.				Appealed.				Affirmed.				Modified or Reversed.			
	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.
Principal Sudder Ameens	5,727	5,511	5,363	5,877	1,306	1,125	1,112	1,233	683	709	563	707	333	373	276	319
Sudder Ameens	4,541	4,844	4,115	5,548	854	934	961	401	492	449	472	537	284	269	290	389
Moonsiffs	34,947	35,952	38,241	35,472	5,592	5,365	5,305	5,630	3,379	3,113	3,069	2,358	1,862	1,538	1,642	1,768
Judges	4,147	3,986	3,578	4,031	88	76	117	93	28	18	21	28	75	59	86	76

The Judges' cases are almost exclusively appeals, and the Sudder Adawlut only decides on appeals from the Judges.
The above return includes the Hill States.

TABLE IV.

Results of Original Suits Decided on Trial.

	In favour of Plaintiffs.				In favour of Defendants.				Total.			
	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.
Before Judges	7	....	2	3	2	2	4	7	9	2	6	10
Before Principal Sudder Ameens	1,681	1,639	1,492	1,581	667	689	632	627	2,348	2,328	2,124	2,208
Before Sudder Ameens	2,951	3,120	3,251	3,354	810	985	980	932	3,761	4,105	4,231	4,286
Before Moonsiffs	28,790	28,908	30,403	27,361	5,681	6,435	6,411	7,486	34,471	35,343	36,816	34,847

TABLE V.
Description of Original Suits.

	Relating to Land.	Relating to Debt, Silk, &c.	Relating to Indigo, Sugar, Silk, &c.	Relating to Religion.
1845	17,253	46,680	755	55
1846	16,745	43,148	707	92
1847	15,270	51,966	878	81
1848	15,823	51,466	756	104
Total	65,091	193,260	3,096	332

TABLE VI.
Average Duration of a Suit.

	Disposed of during the Year.				Depending at the end of the Year.				Average Duration.			
	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.
									Ms. Dys.	Ms. Dys.	Ms. Dys.	Ms. Dys.
Sudder Dewanny Adawlut	241	191	210	202	117	92	89	103	5·835	5·780	5·085	6·118
Zillah Judges	3,990	3,903	3,616	3,988	1,677	1,862	2,370	2,341	5·043	5·724	7·865	7·044
Principal Sudder Ameens	5,835	5,293	5,180	5,731	1,626	1,601	2,018	2,019	3·343	3·629	4·674	4·227
Sudder Ameens	6,300	6,347	6,848	6,683	1,756	1,841	1,865	1,591	3·344	3·480	3·268	2·856
Moonsiffs	53,761	53,001	54,276	52,562	14,041	13,011	12,276	12,311	3·134	2·943	2·692	2·810

TABLE VII.

Value of Property under Litigation at the Close of the Year.

	Original Suits.				Appeals.				Total.			
	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848	1845.	1846.	1847.	1848.
Sudder Dewanny Adawlut	..	..	..	..	2,683,988	1,405,681	1,241,089	1,373,419	2,683,988	1,405,681	1,241,089	1,373,419
Judges, &c., &c...	4,450,449	4,045,545	8,121,363	20,378,717	724,799	692,728	997,160	1,078,295	5,175,246	4,738,273	9,118,543	21,457,012
Total	..	..	..	..	3,408,787	2,098,409	2,238,249	2,451,714	7,859,236	6,143,954	10,359,630	22,830,431

TABLE VIII.

Value of Appeals before the Sudder Dewanny Adawlut.

	To 300 Rupees.		To 1,000 Rupees.		To 5,000 Rupees.		To 10,000 Rupees.		Exceeding 10,000 Rupees.		Total Value.
	Number of Appeals.	Value.	Number of Appeals.	Value.	Number of Appeals.	Value.	Number of Appeals.	Value.	Number of Appeals.	Value.	
		Rupees.		Rupees.		Rupees.		Rupees.		Rupees.	Rupees.
1845	21	2,228	9	5,917	15	39,190	29	210,594	43	24,26,059	26,83,988
1846	15	1,551	15	9,344	14	44,212	27	216,042	21	11,34,532	14,05,681
1847	19	2,571	18	11,792	12	29,679	20	162,831	20	10,34,208	12,41,089
1848	17	2,509	10	7,355	18	41,447	31	248,102	27	10,74,006	13,73,419

Administration of Civil Justice under the Madras Government for the Years 1847, 1848, 1849, *and* 1850, *both inclusive.*

In drawing up the following tables I have been somewhat embarrassed, in consequence of the official returns from Madras, for 1847, differing very essentially in the forms of the tables from those of the three succeeding years. The returns for 1847 are probably equally correct with those for 1848–9 and 50, the last date for which returns have been transmitted; but the courts, facts and details, have a classification which does not admit of rigid comparison with the facts and details of the succeeding years. This observation is called for to explain some discrepancies, which can scarcely result from either clerical or typographical errors or omissions.

Table I. contains the numbers of the original and appeal suits for four years before all the courts; but the returns do not distinguish the suits depending, at the commencement of each year, from those instituted within each year. The total number of suits is 571,515, but this great number is swollen by the labours of a class of functionaries which does not exist under the other governments, namely, the village Moonsiffs, who had 46,609 petty suits; but deducting this amount there remain 524,906, exceeding, by nearly 150,000, the numbers under the other governments of India. The Sudder Adawlut determined 301 suits, a scarcely appreciable per centage, 0·05, of the total number; but these, of course, were appeals, and involving great amounts; and of the total number of suits actually decided, the Sudder Courts' per centage of work was 0·08.

	Total Number of Suits before all the Courts.	Decided by each Court in Four Years.	Per Centage of the Suits actually Decided.	One Suit Annually to Souls.	One Suit to Families.
Sudder Adawlut		301	0·08		
Judges		8,810	2·39		
Assistant Judges and Principal Sudder Ameens		17,780	4·83		
Sudder Ameens		41,432	11·30		
District Moonsiffs		253,026	68·70		
Village Moonsiffs		46,609	12·70		
Punchaets		130	0·04		
Total	571,515	368,088	100·00	156	35

The above table shows that the European judges, with the assistance of the Principal Sudder Ameens, performed 7·3 per cent. of the whole work; and the native judges 92·7 per cent.

Table I. exhibits two notable features, the very great number of suits, 78,885, dismissed for default, and the still more considerable number, 109,293, adjusted by mutual agreement. The first would indicate frivolous litigation, and the latter a commendable spirit of accommodation with opponents.

The following table gives the appeals and their results :—

	Appealable Suits.	Appealed.	Per Centage Appealed.	Reversed or Modified.	Per Centage of Appeals Reversed or Modified.	Per Centage of Reversals of Total Appealable Suits.
Sudder Adawlut	....	575	....	48	8·3	....
Judges	126	49	38·8	7	14·3	5·5
Subordinate Judges and Principal Sudder Ameens	5,551	1,276	22·9	350	27·4	6·3
Sudder Ameens	16,770	3,620	21·6	1,258	34·7	7·4
District Moonsiffs	46,140	6,066	13·1	1,511	24·9	3·3
Total	68,587	11,586	16·8	3,174	27·39	4·62

As might be anticipated, the greatest per centage of cases appealed from the amounts at stake is from the decisions of the European judges in original suits; but they have the smallest per centage of reversals, 14·3, except the Sudder Adawlut, 8·03; but the per centage of the reversals to the total appealable cases, 5·5, is greater than that of the Moonsiffs. It would appear that the lowest per centage of appeals, 13·1, is from the Moonsiffs' decisions; and as they decided 153,185 suits under the value of 10*l.*, or 100 rupees, this paucity of appeals is a natural result, but it is very creditable to them, that only 3·3 per cent. of their judgments were reversed of all their appealable cases. The per centage of suits appealed gradually increases in each court up to the judges, when it is at its maximum, 38·8 per cent. The greatest number of appealed cases reversed, 34·7, is in the Sudder Ameens' Courts, whose chief decisions were in suits for less than 20*l.* The per centage of reversals of all the courts upon all the *appealable* suits was little more than 4½ per cent.

From the Madras returns for 1848–9 and 50, I am enabled to give a curious table of the number of suits before each class of courts for the different amounts between certain fixed sums. It requires to be inspected to be understood, and it will repay the labour. The great mass of litigation is for amounts under 10*l.*; and there were only sixteen suits in those three years, before the highest court, the Sudder Adawlut, for amounts exceeding 1000*l.* The civil judges in the same period had seventy-eight suits above 1,000*l.*, and they did not try any suit below 50*l.*

The duration of suits, as will be seen from Table III., was reduced by the Sudder Court from one year eight months and three days, in 1847, to eleven months in 1850. The civil judges appear to have taken more time for their decisions than the Sudder. The Sudder Ameens got through their work faster than the other judges; and the district Moonsiffs take a much longer time (about six months) than under the other governments of India. The suits depending above two years in the different courts are comparatively few in relation to the whole number of suits, but they are greater than they ought to be; and considering that the mean duration of a suit in the District Moonsiffs' Court is about six months, the annual recurrence of nearly 2,000 cases, which have been upon the file above two years, requires explanation. The very great proportion of decisions in favour of plaintiffs shews that litigation was not vexatious nor frivolous.

The chief subjects in dispute were upon bonds, simple debts, and land.

The population under the Madras government, by the census of 1850–51, is stated to be 22,301,697, which will give about one suit annually to 156 souls, or one to nearly 35 families.

TABLE I.

Suits before the several Courts.

	On the File 1st of January, and Instituted.				Decided on the Merits.											
					On Trial, wholly or in part.				On Trial, Dismissed on Default.				On Trial, Dismissed or Referred.			
	1847.	1848.	1849.	1850.	1847.	1848.	1849.	1850.	1847.	1848.	1849.	1850.	1847.	1848.	1849.	1850.
Sudder Adawlut	166	160	144	105	19	80	87	52	49	...	...	...	•3	2	1	2
Judges	1,686	6,130	5,012	5,896	16	1,482	1,705	1,872	...	804	749	1,236	459	78	84	77
Agencies	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Assistant Judges and Principal Sudder Ameens*	4,984	8,354	9,840	10,273	1,505	2,020	2,389	2,504	...	...	607	1,834	552	721	1,014	257
Sudder Ameens	16,023	18,167	18,735	20,322	4,636	4,058	4,425	4,929	131	...	425	2,449	2,510	2,598	2,830	931
District Moonsiffs	113,680	116,016	85,992	83,150	25,171	22,881	21,573	21,470	2,900	2,697	8,899	12,530	21,185	25,905	8,038	2,625
Village Moonsiffs	9,246	10,303	12,328	14,732	2,341	2,556	2,862	3,588	577	534	...	...	1,653	1,865	2,268	3,190
Punchaeet District	47	33	24	21	6	5	2	3	...	...	...	...	9	6	6	4
Punchaeet Village	31	35	45	35	14	8	13	7	...	...	...	...	2	6	5	4
Total	145,863	159,198	131,920	134,534									21,368	31,181	14,246	7,090

	Adjusted.				Total Decided.				In Arrear 31st December.			
	1847.	1848.	1849.	1850.	1847.	1848.	1849.	1850.	1847.	1848.	1849.	1850.
Sudder Adawlut	...	7	5	...	71	83	93	54	95	77	51	51
Judges	6	91	70	96	476	2,455	2,608	3,271	1,210	2,175	2,404	2,625
Agencies	...	...	...	...	...	...	...	...	...	...	...	...
Assistant Judges and Principal Sudder Ameens*	544	1,230	1,342	1,261	2,601	3,971	5,352	5,856	2,132	4,218	4,288	4,417
Sudder Ameens	1,615	3,286	3,424	3,185	8,892	9,942	11,104	11,494	6,852	7,869	7,631	8,828
District Moonsiffs	19,347	26,421	17,060	17,041	68,603	75,207	55,550	53,666	43,012	38,476	30,442	29,484
Village Moonsiffs	2,249	3,234	3,573	4,182	6,820	7,655	8,703	10,960	2,328	2,647	3,625	3,772
Punchaeet District	4	3	3	2	19	14	11	9	27	19	13	12
Punchaeet Village	3	5	6	4	19	19	24	15	13	16	21	20
Total	23,768	34,271	25,483	25,771	87,501	99,346	83,445	85,325				

Besides the ordinary work, a great amount of labour is bestowed upon miscellaneous matters, deciding upon Petitions, application for Decrees, &c.

* Includes Principal Sudder Ameens.

In the Appellate Courts the numbers include the appealed cases.

In 1848 the causes of dismissal were not distinguished in the returns.

Owing to the returns for 1847 being in different forms from those of following years, the balances are not in exact accord.

TABLE II.

Appeals and their Results from

	District Moonsiffs.						Sudder Ameens.					
	Number of Appealable Decrees passed within the Year.	Number Appealed within the Year.	Affirmed by the Appellate Court.	Reversed or Modified by Appellate Court.	Remanded by the Appellate Court.	Otherwise Disposed of.	Number of Appealable Decrees passed within the Year.	Number Appealed.	Affirmed.	Reversed or Modified.	Remanded.	Otherwise Disposed of.
1847 ...	10,728	1,396	669	435	...	...	3,358	613	367	327	...	...
1848 ...	12,160	1,461	678	312	165	96	4,058	869	437	307	86	42
1849 ...	11,381	1,428	763	373	214	74	4,425	986	440	298	123	60
1850 ...	11,871	1,781	800	391	219	93	4,929	1,152	462	326	107	65
Total...	46,140	6,066	2,910	1,511			16,770	3,620	1,706	1,258		

	Subordinate Judges and Principal Sudder Ameens.						Judges.						Sudder Adawlut.					
	Number of Appealable Decrees passed within the Year.	Number Appealed.	Affirmed.	Reversed or Modified.	Remanded.	Otherwise Disposed of.	Number of Appealable Decrees passed within the Year.	Number Appealed.	Affirmed.	Reversed or Modified.	Remanded.	Otherwise Disposed of.	Number of Appeals.	Affirmed.	Reversed or Modified.	Remanded.	Otherwise Disposed of.	Total.
1847 ...	1,045	229	118	90	...	...	14	4	...	...	...	...	166	16	3	49	3	71
1848 ...	1,311	289	152	55	99	32	36	12	5	...	1	3	160	...	...	...	...	80
1849 ...	1,495	337	190	104	50	18	31	17	13	4	...	6	114	29	36	22	...	87
1850 ...	1,700	421	169	101	32	28	45	16	4	3	1	2	105	12	9	31	...	52
Total...	5,551	1,276	629	350			126	49		7			575		48			290

Table III.

Suits Pending in the different Courts, Original and Appeal.

Suits Pending in the different Courts, Original and Appeal.

	1847.				1848.				1849.				1850.				1851.			
	Under One Year.	Under Two Years.	Above Two Years.	Total.	Under One Year.	Under Two Years.	Above Two Years.	Total.	Under One Year.	Under Two Years.	Above Two Years.	Total.	Under One Year.	Under Two Years.	Above Two Years.	Total.	Under One Year.	Under Two Years.	Above Two Years.	Total.
Sudder Adawlut*	33	38	24	95	31	24	22	77	32	13	6	51	26	19	6	51	...	...	...	...
Agencies	...	...	...	337	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Judges	1,300	350	96	1,746	1,634	400	141	2,175	1,806	481	117	2,404	2,038	477	110	2,625	...	...	...	...
Assistant Judges' Agencies	...	...	...	268	...	...	...	...	1,132	507	223	1,862	1,053	355	119	1,526	...	...	...	...
Subordinate Judges or Principal Sudder Ameens	8,115	1,161	198	9,474	...	...	...	...	1,616	595	215	2,426	1,644	661	188	2,493	...	...	...	...
Sudder Ameens§	...	...	...	...	5,987	1,678	204	7,869	5,679	1,408	544	7,631	6,821	1,644	363	8,828	...	...	...	...
District Moonsiffs‖	...	...	...	43,012	29,614	7,763	1,109	38,476	22,870	5,730	1,842	30,442	23,343	4,071	2,070	29,484	...	...	...	...
Village Moonsiffs	...	...	...	...	2,095	329	223	2,647	2,921	458	246	3,625	3,204	430	138	3,772	...	...	...	...
Punchaect Village	...	...	...	13	6	1	9	16	8	5	8	21	8	3	9	20	...	...	...	...
Punchaect District	...	...	...	37	5	7	7	19	3	2	8	13	5	2	5	12	...	...	...	...

	Average Duration of Original Suits.										Gross Value of all Suits Decided.															
	1847.			1848.			1849.			1850.			1851.		1847.			1848.			1849.			1850.			1851.		
	Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.	Yrs.	Ms.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Sudder Adawlut*	1	8	3	1	6	26	1	6	9	0	11	0	...		...			22,864	0	0	19,371	0	0	213,541	0	0			
Agencies	0	8	3	...			...			...			...		...			...			...			...					
Judges	1	0	29	1	0	19†	1	5	5	1	10	0‡	...		71,320	0	0	75,561	0	0	82,216	0	0	73,536	0	0			
Assistant Judges' Agencies		...			...		1	2	24	1	1	29	...		...			...			39,568	0	0	45,075	0	0			
Subordinate Judges or Principal Sudder Ameens	0	8	0	0	0	0	0	10	28	0	11	24	...		...			...			69,403	0	0	46,464	0	0			
Sudder Ameens§	0	5	22	0	7	23	0	7	0	0	5	24	...		...			85,833	0	0	89,854	0	0	93,099	0	0			
District Moonsiffs‖	0	6	6	0	6	8	0	7	8	0	6	16	...		...			238,220	0	0	173,902	0	0	187,650	0	0			
Village Moonsiffs		...			...			...			...		...		...			4,173	0	0	4,530	0	0	...					
Punchaect Village		...			...			...			...		...		...			930	0	0	517	0	0	...					
Punchaect District		...			...			...			...		...		...			167	0	0	44	0	0	146	0	0			

* Appeals only. † For Original Suits. Appeals 11·2 and 11 months. ‡ Appeals 1 2 28. § No Appeals decided. ‖ Ditto.

TABLE IV.

Character of Litigation.

	Total Number of Original Suits.	For Plaintiffs.	For Defendants.	Total Number of Appeals Decreed.	For Appellants.	For Respondents.
1847.....	97,381	....	....	....	....	....
1848.....	36,531	26,505	10,026	2,221	940	1,281
1849.....	27,524	23,426	4,098	2,568	1,165	1,403
1850.....	31,742	27,444	4,298	2,621	1,178	1,443
1851.....						

TABLE V.

Showing the Nature of the Litigation.

	For Land.		For Houses or other Fixed Property.		Arrears of Rent or Revenue.		Bonds.		Simple Debts.		Damages.		Allowances and other Personalities.		Total.	
	Number of Suits.	Amount.	Number of Suits.	Amount.	Number of Suits.	Amount.	Number of Suits.	Amount.	Number of Suits.	Amount.	Number of Suits.	Amount	Number of Suits.	Amount.	Number of Suits.	Amount.
		Rupees.		Rupees.		Rupees.		Rupees.		Rupees.		Rupees.		Rupees.		Rupees.
1847	21,328	8,61,587	..	..	34,332	1,57,002	..	..	87,096	1,140,379	..	..	1,30,651	35,28,645	..	56,90,615
1848	5,434	8,70,935	1,585	2,40,302	1,097	1,32,188	61,509	32,45,553	16,489	5,22,703	402	79,313	6,725	4,73.135	93,241	55.64,129
1849	4,502	7,28,406	1,503	1,43,719	854	66,786	45,768	20,07,992	11,235	4,96,339	317	52,441	6,255	3,24,088	70,434	67,14,835
1850	4,742	9,71,473	1,605	2,27,592	1,239	86,931	60,786	32,26,613	13,306	4,86,559	755	56,959	5,994	4,25,868	78,427	64,82,053
1851																

N.B.—For 1847 the number of Plaintiffs and Defendants is given, and not the number of Suits.

TABLE VI.

Value of Property in Litigation before the different Courts.

		Under 100 Rupees.	100 to 200.	200 to 300.	300 to 400.	400 to 500.	500 to 1,000.	1,000 to 2,500.	1,000 to 5,000.	5,000 to 10,000.	10,000 and upwards.	Gross Value of Suits Disposed of during the Year.	Pending at the Close of the Year.
												Rupees.	Rupees.
Village Moonsiffs	1847	....	....	....	....	....	....	....	....	....	....	....	....
	1848	....	....	....	....	....	....	....	....	....	....	41,735	22,845
	1849	....	....	....	....	....	....	....	....	....	....	4,15,304	21,072
	1850	....	....	....	....	....	....	....	....	....	....	60,112	22,416
District Moonsiffs	1847	....	....	....	....	....	....	....	....	....	....	....	....
	1848	59,746	4,896	997	297	166	299	....	....	....	....	23,82,200	16,30,283
	1849	47,709	4,887	1,032	273	145	264	....	....	....	....	17,39,020	15,00,801
	1850	45,730	4,657	847	257	178	318	....	....	....	....	18,76,500	15,58,040
Sudder Ameens.	1847	....	....	....	....	....	....	....	....	....	....	....	....
	1848	7,084	1,241	389	132	66	149	123	....	....	....	8,58,336	10,91,910
	1849	8,052	1,492	442	175	98	249	171	....	....	....	8,98,548	10,93,521
	1850	8,057	1,757	532	170	82	224	176	....	....	....	9,30,992	12,15,452
Subordinate Judges, Principal Sudder Ameens, and Assistants to Agencies.	1847	....	....	....	....	....	....	....	....	....	....	....	....
	1848	2,107	834	232	69	74	148	....	156	31	....	9,10,257	14,09,353
	1849	2,827	823	418	125	125	194	....	190	43	....	8,07,003	14,89,244
	1850	3,003	926	270	116	94	226	....	210	28	....	9,15,403	14,65,430
Civil Judges.	1847	....	....	....	....	....	....	....	....	....	....	....	....
	1848	....	....	....	....	....	1,500	....	80	8	24	7,55,619	26,55,868
	1849	....	....	....	....	....	1,714	....	98	18	29	8,22,169	21,74,392
	1850	....	....	....	....	....	1,955	....	103	21	25	7,35,360	23,63,530
Sudder Adawlut.	1847	....	....	....	....	....	....	....	....	....	....	....	....
	1848	....	....	....	....	....	71	....	7	1	4	2,28,643	5,92,213
	1849	....	....	....	....	....	65	....	16	6	6	1,93,712	24,59,653
	1850	....	....	....	....	....	32	....	14	2	6	21,35,416	6,01,542

The Administration of Civil Justice under the Bombay Government, from the Years 1845 to 1848, both inclusive.

The total number of original suits instituted before all the courts, European and native, in four years, inclusive of 9,076 depending on the 1st January, 1845, and 918 of the Colaba State omitted in 1845, was 330,865, of these 194,354 were decided on the merits, 17,895 were dismissed, 15,003 were dismissed on default, and may therefore be looked upon as possibly frivolous and vexatious; and most creditably to the parties concerned, no less than 85,218 suits were adjusted by mutual agreement; and 5,436 were transferred from one court to another. The total decided, therefore, was 317,906. To these are to be added 18,852 appeals, making 336,968, besides 211 of the Sudder Adawlut, but leaving in arrears 12,959, which did not differ much from preceding years; so that the current business of each year was got through.

	Total Number of Suits in Four Years Decided, including Appeals.	Total Number Decided by each Court, including Appeals.	Per Centage of Work done by each Court of the Cases Decided.	Or one Case in.
Sudder Adawlut		211	0·06	1597
European Judges		21,701	6·40	15¼
Principal Sudder Ameens....		21,859	6·50	15·0
Sudder Ameens		54,835	16·30	6·1
Moonsiffs.....		238,109	70·67	1·4
Punchaects		253	0·07	1376
Total	336,968*	336,968	100·00	

* There is an omission of one suit.

From the above table it would appear, that the European judges did about 6½ per cent. of the whole work, their administration being almost entirely appellate. The native judges performed the remaining 93½ per cent. of the whole work. The Sudder Adawlut had only one appeal made to it in every 1,597 cases decided on by the lower courts; 70¾ per cent. of the whole work was done by the Moonsiffs; 16⅓ per cent. by the Sudder Ameens; and 6½ per cent. by the Principal Sudder Ameens; and of this work 680 were cases of appeal. The original suits disposed of by the judges were only 92, and by the assistant judges, 172; but the agent for Jaghirdars, and his assistants, decided 3,265 original suits, besides 179 appeal cases. The Punchaects were scarcely operative.

In the matter of appeals, the total number appealed in four years was 21,021, independently of 211 before the Sudder Court; and, as 2,169 remained undecided at the end of the period, 18,852 is

the number appealed upon 317,906 suits disposed of, or 5·9 per cent.—16,768 were decided, 711 dismissed on default, and 553 adjusted, and 820 were transferred to other files,—2,341 were appealed in four years from decrees of the European judges and assistant judges; and as these parties decided only 3,529 original cases, if the figures be right, no less than 66·3 per cent. of their decisions were appealed, while, of the 314,376 suits decided by native judges, only 17,042 were appealed, or 5·4 per cent.

The following table exhibits the appellate jurisdiction over the several courts, but does not give the appellate cases of the total number of suits decided, nor does it give the appeals from each court separately, as at the other Presidencies.

	Suits Decided.	Appeals Decided.	Per Centage Appealed.	Reversed or Modified.	Per Centage of Appealed Cases Reversed or Modified.	Per Centage of Reversed or Modified Suits to all Suits Decided.
Sudder Adawlut	....	211	....	103	48·8	0·03
Judges	....	....	....	....	....	....
Assistant Judges	....	1,937	....	614	31·7	0·18
Principal Sudder Ameens, Sudder Ameens, and Moonsiffs	....	14,831	....	6,380	43·0	1·90
Total.....	317,906	18,852	5·9			

The official tables not giving the appeals against each class of judges, the per centage results in the above table are necessarily incomplete.

The aggregate value of the property in dispute in the original suits was 2,114,334*l.*; and in the appealed suits before the Sudder Court, 62,852*l.* 151,412, or about one-half of all the original suits were for amounts under one pound, and of these 4,484 were appealed, or 2·9 per cent., while for original amounts above 1000*l.* there were only 188, and of these 51 were appealed, or 27·6 per cent. In the whole four years there was only one person in jail for arrears of land tax due to government.

The census of 1851 gave the population of the whole Bombay Presidency, inclusive of the city of Bombay, at 9,015,534 souls, which would give one suit to every 26¾ souls, or less than six families, so that British subjects under Bombay must have an unexampled passion for litigation. 151,412 were for suits under one pound sterling.

Civil Justice, Bombay, for 1845 to 1848, inclusive.

TABLE I.

Statement of Original Suits on the File of the Adawlut Courts.

	On the File at the Commencement of the Period.	Instituted during the Period.	Total.	Disposed of.						By European Agents.		
				On Trial.		Dismissed on Default.	Adjusted.	Transferred to another File.	Total.	By the Judges.	By Agent, by Assistant Agent for Jaghirdars.	By Assistant Judges.
				Decreed wholly or in part.	Dismissed.							
1845 ..	9,076	77,062	86,138	46,215	3,522	3,665	20,151	640	74,223	10	771	36
1846 ..	12,834	83,858	96,692	48,166	3,804	3,666	22,470	1,398	79,504	10	855	21
1847 ..	17,188	80,984	98,172	51,245	5,652	3,874	22,120	2,449	85,340	15	888	68
1848 ..	12,832	78,966	91,798	48,698	4,917	3,798	20,477	949	78,839	57	751	48
Total..	51,930	320,870	330,865	194,354	17,895	15,003	85,218	5,436	317,906	92	3,265	172

	By Native Agents.				Total Number Decided.	In Arrears at the end of the Period.	Total Disposed of and in Arrears.	Aggregate Value of Suits Decided.	Number of Cases on the File for One Year and under.	From One to Two Years.	For any Period beyond Two Years.
	By 6 Principal Sudder Ameens.	By 14 Sudder Ameens.	By 66 Moonsiffs.	By Punchaect.							
								Rupees.			
1845 ..	4,399	12,692	56,229	86	74,223	11,915	86,138	39,54,619	11,668	192	55
1846 ..	4,774	13,755	60,019	70	79,504	17,188	96,692	40,01,849	16,735	373	80
1847 ..	6,494	14,649	63,178	48	85,340	12,832	98,172	42,43,187	12,379	371	82
1848 ..	5,512	13,739	58,683	49	78,839	12,959	91,798	89,43,691	12,569	290	100
Total..	21,179	54,835	238,109	253	317,906	12,959	330,865	2,11,43,346			

In 1846 the cases pending in the Colaba State were carried forward for the first time, 918; and the 9,076 pending in 1845 should have been increased by that number. In the Decisions upon the Merits 19 Jaghirdars have jurisdiction.

Table II.

Statement of Appeals to the Zillah Authorities from the Decrees of the Assistant Judges of the Assistant Agent at Poonah and of Native Functionaries.

	On the File at the Commencement of the Period.	Preferred during the Period from Decrees of		Total.	Decided.					Appeals from the Assistant Judges.			Appeals from the Native Functionaries and Punchaects.			Total.
		European Functionaries.	Native Functionaries.		On Trial.		Adjusted.	Transferred to other Files.	Total.	Confirmed.	Amended.	Reversed.	Confirmed.	Amended.	Reversed.	
					Decreed wholly or in part.	Dismissed on Default.										
1845...	1,638	579	4,011	6,248	3,335	90	104	221	3,750	147	14	66	1,678	423	1,007	3,835
1846...	2,498	355	3,954	6,787	2,841	153	137	326	3,457	339	27	115	1,232	262	866	2,841
1847...	3,330	604	4,668	8,602	5,114	267	154	76	5,611	332	34	127	2,724	397	1,500	5,114
1848...	2,991	803	4,409	8,203	5,478	201	158	197	6,034	505	40	191	2,817	401	1,524	5,478
Total...	...	2,341	17,042	21,021	16,768	711	553	820	18,852	1,323	115	499	8,451	1,483	4,897	16,768

	Of these Decided by the Judge.	Of these Decided by the Agents.	Of these Decided by the Senior Assistants and Assistant Judges.	Of these Decided by the Principal Sudder Ameens.	Total Disposed of during the Period.	On the File at the end of the Period.	Total.	Appeals on the File under One Year.	For One Year and Upwards.
1845...	1,119	10	2,415	213	3,750	2,498	6,248	2,351	247
1846...	1,815	28	1,466	148	3,457	3,330	6,787	2,705	625
1847...	2,484	56	2,862	209	5,611	2,991	8,602	2,827	164
1848...	2,701	85	3,138	110	6,034	2,169	8,203	1,846	323
Total...	8,119	179	9,881	680	18,852	...	29,840	...	...

TABLE III.

Statement of Appeals to the Sudder Dewanny Adawlut.

	On the File at the Commencement of the Period.	Referred within the Period.	Total.	Decided.			Confirmed.	Amended.	Reversed.	Settled by Arbitration.	On the File at the end of the Period.	On the File under one Year.	On the File one Year and Upwards.	Aggregate Value of the Appeals Decided.		
				On Trial.	Dismissed on Default.	Adjusted.										
				Decided wholly or in Part.										R.	A.	P.
1845	79	65	144	33	....	....	9	6	18	....	111	65	46	1,60,913	5	6
1846	111	84	195	15	....	1	10	....	5	1	179	82	97	1,41,020	15	8
1847	179	76	255	41	5	2	27	3	11	2	207	75	132	2,02,535	0	0
1848	207	101	308	102	10	2	42	3	57	2	194	100	94	1,24,061	0	0
Total....	....	326	405	191	15	5	88	12	91	5	194	100	94	6,28,529	0	0

TABLE IV.

Statement of the Number and Description of Plaintiffs and Defendants in Suit, and of Debtors in Jail, at the Instance of Individuals and for Arrears of Revenue to Government.

	Plaintiffs.			Defendants.			Civil Debtors in Jail at the end of the Period.				
	Zemindars.	Ryots.	Miscellaneous.	Zeminders.	Ryots.	Miscellaneous.	At the instance of Individuals.	Amount of Debts.	For Arrears of Revenue at the instance of Government.	Amount of Arrears.	Total Number in Jail.
								R. A. P.			
1845.....	4,254	25,462	37,537	20,390	22,957	40,421	171	2,90,690 9 10	1	50	172
1846.....	4,727	18,309	46,190	16,116	22,781	44,754	157	51,785 2 7	....	....	157
1847.....	5,646	17,554	52,716	16,543	23,156	50,169	176	18,889 0 0	....	....	176
1848.....	6,586	17,343	48,391	16,649	22,005	46,511	195	34,654 0 0	....	....	195
Total	21,213	78,668	184,834	69,698	90,899	181,855	699				

TABLE V.

Abstract of Value of Appeals to the Zillah Judges, &c.

	Under 10 Rupees.	Under 50 Rupees.	Under 100 Rupees.	Under 200 Rupees.	Under 500 Rupees.	Under 1,000 Rupees.	Under 10,000 Rupees.	Upwards of 10,000 Rupees.	Total.
1845	1,070	2,853	975	727	332	138	140	13	6,248
1846	1,207	3,155	1,058	718	368	134	139	8	6,787
1847	1,646	3,716	1,419	921	514	186	187	13	8,602
1848	1,561	3,738	1,260	816	449	162	200	17	8,203
Total	4,484	13,462	4,712	3,176	1,663	620	666	51	29,840

TABLE VI.

Abstract of Value of Original Suits.

	Under 10 Rupees.	Under 50 Rupees.	Under 100 Rupees.	Under 200 Rupees.	Under 500 Rupees.	Under 1,000 Rupees.	Under 10,000 Rupees.	Upwards of 10,000 Rupees.	Total.
1845	36,708	37,781	5,899	3,273	1,563	462	416	36	86,138
1846	38,773	44,503	6,870	3,833	1,767	452	446	48	96,692
1847	39,130	45,378	6,934	3,816	1,851	540	465	50	98,172
1848	36,801	42,191	6,517	3,559	1,658	480	440	46	91,798
Total	151,412	169,853	26,220	14,481	6,839	1,934	1,767	188	372,800

Summary.

To give a compendious view of the results under the Four Governments, and to facilitate comparison, they are placed in juxtaposition.

Tribunals.	Bengal.			North-West Provinces.			Madras.			Bombay.		
	Number of Cases Decided in Four Years.	Per Centage of whole work done.	Or One Suit in	Number of Cases Decided in Four Years.	Per Centage of whole work done.	Or One Suit in	Number of Cases Decided in Four Years.	Per Centage of whole work done.	Or One Suit in	Number of Cases Decided in Four Years.	Per Centage of whole work done.	Or One Suit in
Sudder Adawlut	1,785	0·41	242	844	0·31	330	301	0·08	1223	211	0·06	1597
Zillah and City Judges	13,119	3·04	33	15,497	5·56	11·5	8,810	2·39	41·7	21,701	6·40	15⅓
Assistant Judges and Principal Sudder Ameens	....	....	....	....	....	....	17,780	4·83	20·7	21,859	6·50	15
Principal Sudder Ameens	34,999	8·11	12·3	22,039	7·90	12·6	....	....	....	54,835	16·30	6·1
Sudder Ameens	8,314	1·92	52·0	26,178	9·40	10·6	41,432	11·30	8·8	....	....	....
Moonsiffs	373,462	86·52	1·1	214,037	76·83	1·3	253,026	68·70	1·6	238,109	70·67	1·4
Village Moonsiffs....	....	....	....	....	....	....	46,609	12·70	7·9	....	....	....
Punchaects	....	....	....	....	....	....	130	0·04	....	253	0·07	1376
Total	431,679	100·00		278,595	100·00		368,088	100·00		336,968	100·00	

SUMMARY.—*Continued.*

Number of Suits annually *to Population and Families.*

Bengal.			North-West Provinces.			Madras.			Bombay.		
Estimated Population.	One Suit per Head.	One Suit to Families.	Population by Census.	One Suit to Souls.	One Suit to Families.	Population by Census.	One Suit to Souls.	One Suit to Families.	Population by Census.	One Suit to Souls.	One Suit to Families.
36,848,981	341	75¾	23,199,668	319	71	22,301,697	156	35	9,015,534	26¾	6

Number of Judges as the same stood in 1852.

	Bengal.	North-West Provinces.*	Madras.	Bombay.	Total.
Sudder Dewanny Adawlut	5	3	4	4	16
Zillah Judges	25	21	20	10	76
Assistant Judges	4	1	9	7	21
Principal Sudder Ameens	32	21	6	5	64
Sudder Ameens	14	21	33	13	81
Moonsiffs	234	106	89	64	493
Total	314	173	161	103	751

* Exclusive of the Hill States.

SUMMARY—*Continued. Comparison of Appeal Work under the Four Governments.*

Tribunals.	Bengal.						North-West Provinces.					
	Number of Suits Appealable in Four Years.	Number Appealed in Four Years.	Number Reversed or Modified.	Per Centage Appealed.	Per Centage Reversed or Modified.	Per Centage Reversed to Total Appealable Cases.	Number of Suits Appealable in Four Years.	Number Appealed in Four Years.	Number Reversed or Modified.	Per Centage Appealed.	Per Centage Reversed or Modified.	Per Centage Reversed to Total Appealable Suits.
Sudder Adawlut	....	3,428	337	....	9·8	....	....	844	220	....	26·0	....
Zillah Judges*	....	1,080	142	....	13·2	....	15,742	374	296	2·3	79·1	1·9
Subordinate Judges and Prncpl. Sudder Ameens	....	....	....	....	....	....	....	....	....	....	....	....
Principal Sudder Ameens	28,520	3,669	1,271	12·8	34·6	4·4	22,478	4,776	1,301	21·2	27·2	5·8
Sudder Ameens	6,057	2,301	797	37·9	34·5	13·1	19,098	3,150	1,232	16·4	39·1	6·4
Moonsiffs	230,482	34,964	11,207	15·1	32·0	4·9	144,612	21,892	6,810	15·1	31·1	4·7
Total	265,059	45,442	13,754	17·14	30·26	5·18	201,930	31,036	9,859	14·95	31·90	4·77

Tribunals.	Mudras.						Bombay.					
	Number of Appealable Suits in Four Years.	Number Appealed in Four Years.	Number Reversed or Modified.	Per Centage Appealed.	Per Centage Reversed or Modified.	Per Centage of Reversals to Total Appealable Suits.	Number of Appealable Suits in Four Years.	Number Appealed in Four Years.	Number Reversed or Modified.	Per Centage Appealed.	Per Centage Reversed or Modified.	Per Centage of Reversals to Total Appealable Cases.
Sudder Adawlut	....	575	48	....	8·3	....	....	211	103	....	48·8	....
Zillah Judges	126	49	7	38·8	14·3	5·5	....	....	....	....	....	....
Subordinate Judges and Prncpl. Sudder Ameens	5,551	1,276	350	22·9	27·4	6·3	....	1,937	614	....	31·7	....
Principal Sudder Ameens	....	....	....	....	....	....						
Sudder Ameens	16,770	3,620	1,258	21·6	34·7	7·4	....	14,831	6,380	....	43·0	....
Moonsiffs	46,140	6,066	1,511	13·1	24·9	3·3						
Total	68,687	11,586	3,174	16·86	27·39	4·62	....	16,979	7,097	....		....

* As the Zillah Judges scarcely exercise any original jurisdiction, the figures in the tables must refer chiefly to suits appealed. The cases sent for re-trial are not included in the table.

In the Bombay Appeal Tables the appealable suits are not distinguished from those appealed, nor are the appeals against the decisions of the Zillah Judges stated.

The Punjaub and Sind, and the Non Regulation Provinces, are not included in the preceding tables.

The miscellaneous proceedings of the Judges of the several courts, embracing a very considerable amount of work, petitions, proceedings, applications for executions of decrees, petitions of special appeals, petitions for review, &c., &c., are not included in the tables from the several Presidencies.

Having detailed numerically the work done by the different civil courts in British India, this paper might, nevertheless, be deemed incomplete without offering some information on the initiatory expense of suits, and on the qualifications of the native judges and vakeels, or pleaders (quasi-barristers), who conduct suits in the courts of the civil judges. I append, therefore, the tables of the amount of the institution fee on a plaint at the different presidencies; in other words, the plaint must be written upon stamped paper, which is the property of government, of graduated values, corresponding to the amount in litigation; but in Bengal, and I presume in the North-West Provinces and Madras,* suitors in the Moonsiffs' courts are excused from the use of stamped paper, as would appear from a reply of the Sudder Adawlut, in the Bengal Regulations, to the inquiries of a judge.

"I am directed to inform you, that the exemption from stamp duty, under Regulation III., 1817, included all cases, in whatever courts tried, below 64 rupees; this was extended by section 9, Schedule B., Regulation X., 1829, to cases not exceeding 150 rupees. By section 9, Regulation V., 1831, cases tried before Moonsiffs, to whatever amount, are exempt from stamp. There is no subsequent enactment affecting this last rule. Clause 3, section 9, Regulation V., 1831, however, enacts, that no suits, however small the amount, which are instituted in the Zillah Court, shall be held exempt, whether eventually referred to the subordinate authorities or retained on the judge's file. Section 3, Regulation VII., 1832, prescribes the amount of stamp in cases instituted in Zillah courts, viz., 4 rupees in cases above 1,000 rupees, and 1 rupee in original cases not above 1,000 rupees, as well as appeals from Sudder Ameens and Moonsiffs. Con. No. 767, West. C. 8th March. Col. C. 29th March, 1833."†

Prices of Stamped Paper for Plaints in Original Suits.

Bengal.			North-West Provinces.	Madras.	Bombay.		
Rupees.		Rupees.					
to	16				Under 1 Rupee	No Stamp	Rs. A.
16 to	32	2			1 to	2	0 2
32 to	64	4			2 to	5	0 4
64 to	150	8			5 to	10	0 8
150 to	300	16			10 to	20	1 0
300 to	800	32			20 to	30	2 0
800 to	1,600	60			30 to	40	3 0
1,600 to	3,000	100			40 to	50	4 0
3,000 to	5,000	150			50 to	75	5 0
5,000 to	10,000	250			75 to	100	7 0
10,000 to	15,000	350			100 to	200	10 0
15,000 to	25,000	500			200 to	300	20 0
25,000 to	50,000	700			300 to	500	30 0
50,000 to	100,000	1,000			500 to	1,000	50 0
100,000 & upwards	.....	2,000			1,000 to	1,500	70 0
					1,500 to	3,000	100 0
					3,000 to	5,000	150 0
					5,000 to	7,500	200 0
					7,500 to	10,000	250 0
					10,000 to	15,000	350 0
					15,000 to	25,000	500 0
					25,000 to	50,000	750 0
					50,000 to	100,000	1,000 0
					100,000 to	whatever amount ...	2,000 0
			Same as Bengal.	Same as Bengal.			

The Stamps for Bonds, Promissory Notes, Marriage Settlements, Answer, Rejoinder, Razunamah, &c., &c., are of much less value.

* By India Legislative Act, No. xvii., of 1848, an institution stamp in the District Moonsiffs' Courts, at Madras, is sanctioned.

† Marshman's Guide to Civil Law, chap. ii., sect. 27, clause 447, p. 151.

In Bombay the Moonsiffs have jurisdiction to the extent of 5,000 rupees; and stamp exemption under 100 rupees did exist till 1828, when, by Regulation III., the exemption was abolished and stamps reimposed to check needless lawsuits, with what effect will be seen.

As there are stamp fees in the Moonsiffs' Courts in Bombay down to a sum in litigation of half-a-crown only, suitors are placed in a very different position from those under the other Presidencies. How far these differences may influence the amount of litigation under the different governments, as exhibited in the table of suits relative to population, is a matter for grave consideration; for it is shown, that the litigation under Bombay is just six times the amount of litigation in Madras, and twelve and a half times the amount in Bengal.

With respect to the qualifications of the native judges, precautions are taken to insure their competency. For the most part they are selected from a class who have been or are the ablest and best instructed vakeels, or pleaders (quasi-barristers), who have practised or practise in the several courts. The vakeels or pleaders have a license or qualification certificate, to practise; but previously to obtaining this Sunnud, "the qualifications of a candidate for the station of pleader shall be determined by certificate from a committee consisting of two or more law officers, of different persuasions on the establishment of either the court of Sudder Dewanee Adawlut, or the Zillah court, where the candidate offers himself for practice; the selection of the members of the committee shall be made by the Sudder Dewanee Adawlut, and a judge of that court shall preside in the committee, and shall have the casting vote in case of the members of the committee being equally divided, and a negative vote in all cases."—Bombay Regulations, 11 of 1827, chap. 6, sect. XLVIII., clause 2.

Similar precautions are taken before candidates are appointed to the office of Moonsiffs, from which station they usually rise, if zealous, efficient and honest, to be Sudder Ameens and Principal Sudder Ameens. The following are the regulations in Bengal for the examination of candidates for the office of Moonsiff:—

"181. That at each three Zillah stations in the North-West Provinces, and four in Bengal, to be selected by the governments of those Presidencies respectively, there be appointed a provisional committee of examination, consisting ordinarily, beside such person or persons as the government may think fit, of 1st, the Commissioner of the Division in which the station is situated; 2nd, the Zillah Judge; 3rd, the Magistrate; 4th, the Principal Sudder Ameen, or Principal Sudder Ameens, of the station."*

"182. That all candidates for Moonsiffships be required to send in their applications for examination to a Zillah judge of the division within which they desire to be examined, at least two months before the examination to be held; but that no such application shall be presented to the judge who is a member of the examination committee.

"183. That the Zillah judge, after making such inquiries as he may deem proper, in order to ascertain that nothing exists against the character of the applicant to render him unfit to enjoy the privilege of examination, shall certify, on the face of the application, that the applicant may be examined."

* Reg. V. of 1831, sect. iii., and Marshman's Guide, sect. xvii. "Constitution and Jurisdiction."

A satisfactory examination insures a diploma, which qualifies the individual for the duties of Moonsiffs on a vacancy occurring. On the 8th March, 1840, additional rules were laid down to render the examination both viva vocè, and by written answers, more rigid. In a recent despatch from Bengal, the Sudder Adawlut states: "Every days' experience shows that, as a body, they (the native judges) have advanced, and are gradually advancing, in probity, good conduct, and the knowledge requisite for the discharge of their responsible duties." With such qualifications in the native judges, and with such precautions taken to insure their possessing those qualifications, the amount of labour they perform and the moderate amount of appeals against their decisions, not only give confidence in the employment of native agency in the administration of justice, but would seem to sanction its further development in more elevated situations. Indeed, a recent writer* seems to think they possess some peculiar qualifications which, in portions of the judicial functions, give them an advantage over the European judges. He says: "These offices, as we have before stated, are generally filled by either natives or East Indians, although open to all persons without reference to creed, colour, or caste; and the individuals who fill them, though usually inferior in point of education to their more favoured brethren of the covenanted service, may frequently have the advantage of the latter in regard to what may be termed strictly professional attainments. The majority of them have held, in the first instance, subordinate ministerial offices, or have practised as pleaders in the courts, and have so acquired a knowledge of the rules of court-practice and procedure, superior, in many instances, to that possessed by the more highly paid covenanted judge. They are naturally, also, more familiar with the habits and customs of the people, and more competent to estimate the value of the evidence brought before the court. In a knowledge of general principles, and in those habits of accurate investigation, 'which shall trace the doctrine upon which ordinances rest, and which as well as a mere knowledge of positive ordinances, are essential to judicial excellence.' The want, in most cases, of a liberal education must undoubtedly be much experienced by the class of officers to whom we refer; and it is to the general diffusion of European education, and to the establishment of law classes at each of our Indian Presidencies, that we must look as the only means of improving in this respect the qualifications of the officers who preside in the superior courts."

The jurisdiction of these officers at the different Presidencies, with respect to the amount up to which they can decide suits, is shown in the following table:—

Jurisdiction of Native Judges in Original Suits.

	Bengal.	North-West Provinces.	Madras.	Bombay.
	£	£	£	£
Principal Sudder Ameens.....	Unlimited.	Unlimited.	to 1,000	Unlimited.
Sudder Ameens.....	to 100	to 100	to 250	to 1,000
Moonsiffs	to 30	to 30	to 100	to 500

* The Judicial System of British India. By an Indian Official. London, Pelham Richardson, 1852.

I am not aware of any reasons being given for trusting the native judges of Madras and Bombay (particularly the latter) with more extended powers than are given to the native judges of Bengal.

With regard to the cost of suits in India, it is plain that litigants get justice much cheaper there than in England. A pleader before a county court in England, would look aghast at a retaining fee of four annas of a rupee (just sixpence), which, at one time, was the regulated amount in a native judge's court, but which is now abolished, except under Bombay, where a retaining fee of eight annas (one shilling) still exists.—Reg. II. of 1827, chap. VI., sect. L., clause 2. Pleaders now make their own arrangements with their clients for their fees in conducting a suit through the courts; but when they have to be paid out of costs, and when there is no agreement, the following is the scale upon the amounts in litigation at the different Presidencies:—

Pleaders' Fees when there is no Agreement.

Bengal.	North-West Provinces.	Madras.	Bombay.
Under 500*l.* 5 per cent.	Same as Bengal.	Under 500*l.* 5 per cent.	Under 200*l.* 3 per cent.
500*l.* to 2,000*l.* 2 „		500*l.* to 2,000*l.* 2 „	200*l.* to 1,000*l.* 2 „
2,000*l.* to 5,000*l.* 1 „		2,000*l.* to 5,000*l.* 1 „	1,000*l.* to 2,000*l.* 1 „
5,000*l.* to 8,000*l.* ½ „		5,000*l.* to 8,000*l.* ½ „	Above 2,000*l.* ½ „
Above 8,000*l.* 100*l.* „		Above 8,000*l.* 100 „	

The maximum sum, therefore, which a pleader can receive, except at Bombay, for conducting a suit is 100*l.* At Bombay, it is a half per cent. for all amounts above 2,000*l.* for 8,000*l.*, therefore, he would receive only 40*l.* instead of 100*l.*, as at the other Presidencies. Supposing a person, instituting a suit for the recovery of 20*l.*, there would not be an institution stamp-fee in the Moonsiffs courts of Bengal, or North-West Provinces, and the fee to the pleader or barrister would be 1*l.* At Bombay the institution stamp-fee would be 1*l.*, and the pleader's fee 12*s.* For a sum above 8,000*l.* in Bengal and at Bombay, the institution stamp-fee would be 100*l.*, the pleader's fee in Bengal and Madras 100*l.*, and in Bombay 40*l.*

I have not adverted to the vexata quæstio of precedure, for, however objectionable and capable of amendment it may be, it is evident its present state does not deter the people from seeking their rights in the courts.

Very much has been written and said by advocates for establishing the Jury System in India, where there is the precedent of a peculiar characteristic, the Punchaect, which is neither more nor less than a jury of five men (as the word Paunch, five, implies,) willing to decide upon cases referred to them.

It is therefore a matter of surprise to find not a single case referred to a Punchaect in the returns from Bengal and the North West Provinces, and only 130 and 253 in the respective returns from Madras and Bombay. As it is understood that the Indian Government throws no impediment in the way of the use of Punchaects, it must be a

voluntary act on the part of litigants going to tribunals where they find a single judge, and some expense in pursuing their rights; but this preference proves nothing against the useful introduction of juries into the administration of both civil and criminal justice, for it is by the jury system that the discipline of the native Indian army has been satisfactorily maintained. All military offenders in regiments are tried by a jury of three or five, or more, native officers of the regiment, called a court-martial, and they take an oath to do justice. This jury not only decides the fact of guilty or not guilty, but also allots the punishment under the limitations of the Articles of War. For many years I was interpreter of my regiment, and in those days it was customary for the interpreter to superintend regimental courts-martial, to record the proceedings, and to explain military law; and I have often been struck with the acumen and sense of justice which have marked the decisions of the jurors. Had there been inherent faults in this system it could not have lasted so long. Grave offences are tried before thirteen or fifteen native officers of different regiments, assembled as district or general courts-martial. It is to be presumed, therefore, native juries could be made available in the administration of civil and criminal justice.

In the preceding tables I have endeavoured to compress into the narrowest possible limits a clear view of the working of the several courts in British India for the administration of civil justice. The sources of my information are the printed reports of the Sudder Dewanee Adawlut of the respective governments. I appear in no other character than as the expositor of facts, patent to any other person besides myself, who might have chosen to take the trouble to get at them. I am neither the apologist nor advocate for the existing system, nor do I express an opinion upon its defects or short-comings; the results must speak for themselves; but the present paper, combined with the two former papers, each composing reports for four years, renders manifest the important fact very little thought of, or even understood in Europe, that the whole civil justice of India, within a fraction, is administered in original suits, through native agency; and so far from aversion from the native courts being shown, the people under the Bombay Government have recently petitioned for the establishment of village Moonsiffs, similar to those at Madras. The European judges, in fact, exercise little more than appellate jurisdiction, combined, however, with the indispensable and highly important duties of watching over the conduct and proceedings of the native judges—a supervision which can never be abandoned or even relaxed with safety. Finally, the Indian Government can claim the distinction of taking the precedence of that of England in the establishment of courts analogous to the county courts, in establishing examinations to prove the capacity of pleaders before they are allowed to exercise their functions, and in fixing a limit to the costs of a suit.

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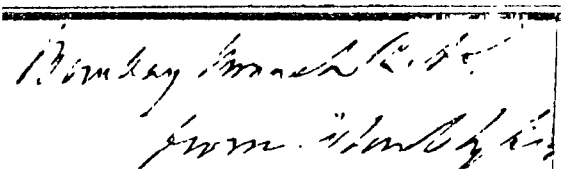

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From the JOURNAL OF THE STATISTICAL SOCIETY OF LONDON, FEBRUARY, 1850.

Statistical Account of the Labouring Population Inhabiting the Buildings at St. Pancras, erected by the Metropolitan Society for Improving the Dwellings of the Poor. By LIEUT.-COLONEL W. H. SYKES, F.R.S.

[Read before the Statistical Section of the British Association at Birmingham, September. 1849.]

AT an early period of the foundation of the Statistical Society of London, the attention of the Council and of the members of the Society was devoted to inquiries into the condition of the working classes, and of their dwellings. Mr. Benjamin Heywood, President of the Statistical Society of Manchester, in September, 1834, communicated to the Statistical Society at Edinburgh the results of inquiries into the condition of 4,102 families of working men of Manchester. It was shown that of the houses occupied 2,557 were not comfortable. The late Bishop of Norwich submitted to the Society a paper, in June, 1835, on the receipts and expenditure of labourers' families, taken from villages in Cheshire, in which was shown that the average expense per head per diem for food in the parish of Holyhead in Anglesey, was only 2*d.*, while in Cheshire it was 3*d.*, but that any expense for beer did not exist in his own parish, or other parts of Cheshire, or in the neighbouring agricultural rural counties, the beverage being water and buttermilk.

On May 15, 1837, Mr. Rawson read a paper on the State of the Poor inhabitants of Callmel-buildings, in Marylebone, London. "The average number of souls in a house was 34, and in a room 4¼; but in one room there were 13: and of 76 individuals, 61 occupied only part of a room, and of 199 rooms, 50 were occupied by more than one family." Before the Statistical Section at Liverpool, in September 1837, Mr. Langton read a paper on the Inhabited Courts and Cellars in Liverpool. The courts were 2,271, and the cellars 7,493, dark, damp, confined, and tenanted by nearly 30,000 souls. This dreadful picture excited an animated discussion upon improving the moral character of the poor by attention to their dwellings and domestic comforts.

On the 16th April, 1838, Mr. James Heywood read a paper before the Statistical Society of London, giving an account of a house-to-house visitation of 176 families in Manchester; 165 houses contained many cellars, and there were 11 separate cellars, 34 were just comfortable, 37 uncomfortable, and 9 wretched.

In June, 1838, the Statistical Society of Bristol communicated the results of an inquiry into the condition of 275 poor families occupying 166 houses: 123 families occupied one room, 105 had two rooms, and 47 had three or more. There were 1,049 souls, of whom 576 were children. In 54 houses there were no privies, and in 83 no water, or an insufficient supply, and in 58 no drains, or they were stopped up, and 149 rooms were close and confined.

In July, 1838, Mr. J. P. Kay, Assistant Poor Law Commissioner, gave an account to the Statistical Society of the state of 539 families in Norfolk and Suffolk. At the British Association at Newcastle, in August, 1838, Mr. Cargill gave a Report, embracing, amongst other subjects, the condition of the lower classes. It contains the following paragraph:—"In many parts of the parish our Assistant found the

dwellings close, dirty and miserable, without the semblance of order or comfort, whole families often occupying a single room, and living in an atmosphere to him of a nature totally unendurable."

In December, 1838, a Committee of the Statistical Society of London reported upon the State of Education in St. George's, St. James', and St. Ann, Soho, having formerly reported upon the parishes of St. Martin's-in-the-Fields and Strand Union. The condition of the dwellings was less an object than the state of education; but 3,891 poor families were visited, and cases of most distressing poverty generally spoken of, but details not given.

At the meeting of the British Association, in August, 1838, Mr. Mc Doull reported upon 309 cottages at Ramsbottom, near Bury, one of the best districts in Lancashire. In 137 there was one bed-room only, and in 172 there were two; in 137 families, each had only one bed-room occupied by 777 individuals, and 172 families had two bed-rooms occupied by 1,223 individuals. Some of the families occupying one bed-room consisted of from 8 to 13 individuals!

Similar reports are made from Penzance,—from three parishes in Rutlandshire,—by the Statistical Society of Manchester, in which is the following revolting comparison of the bed accommodation in the villages of Egleton and Branstown in Rutland, and Dukenfield and Bury, in Lancashire:—

Egleton, &c.,	14	per cent. of the families have *more*	than 3 persons to a bed.
Branstown	19	,,	,,
Dukenfield	33	,,	,,
Bury	35	,,	,,

Mr. Bowles Fripp communicated an elaborate paper to the Statistical Section at the British Association, on the 29th August, 1839, on the Condition of the Working Classes in Bristol, exhibiting the condition of 6,000 families, and upwards of 20,000 persons; 3,028 houses were examined: 556 families occupied part of a room only, and 2,244 families had each only one room, the *average* number to a family being 3·46 souls. The state of the privies, drains, ventilation, and supply of water, was generally very bad or defective. In October, 1839, a Statistical Committee of the Town Council of Leeds gave a Report upon the Condition of the Town and Inhabitants. It will suffice to quote the following passage:—"In some instances there are from 5 to 6 persons in each bed; that there are generally two or three, and frequently without separation of the sexes, or consideration as to age, brother and sister up to adolescence, sleeping commonly in the same room, and not unfrequently in the same bed."

On the 16th March, 1840, a Committee of the Statistical Society of London reported upon the State of the Working Classes in the Parishes of St. Margaret and St. John, Westminster: 275 families had 389 beds, but as the families consisted of 1,112 persons, there were about three persons to a bed. Whole families were congregated in one room, and of these there were 3,892; and 1,053 families had two rooms. The average amount of weekly rent was 2*s.* 11¾*d.* It was in this Report that the first suggestion was made, in the terms of the Report, "*of the outlay of a moderate amount of capital in the erection of buildings containing sets of rooms suited to the accommodation of labouring families in properly selected situations. For these dwellings*

weekly rents should be required from the tenants, and a profit may in this manner be reasonably expected from capital judiciously invested, while advantages of still greater importance, both physical and moral, would be gained to society from the removal of a serious cause of discontent among the working classes, and from the provision of a more correct and convenient arrangement of their household comforts, which very naturally assist in the foundation of a superior moral character."

This brings me to the object of the present paper. I have only quoted Reports brought into connexion with the Statistical Society of London, or the Statistical Section of the British Association; but there are numerous other instances of local investigation, all showing the miserable dwellings of a great portion of the labouring classes, and not the least was the Parliamentary Committees appointed to inquire into the Health of Towns. It was scarcely possible these reports, read as they were at public meetings, and subsequently printed, should fail to attract the notice of some of the many benevolent and practical men in England. Sir Ralph Howard, Lord Morpeth, Lord Ebrington, Mr. F. M. Gibson, Lord Grosvenor, Lord Claud Hamilton, Mr. J. W. Tottie, and others, shortly associated themselves together for the purpose of forming a "Metropolitan Association for the Improvement of the Dwellings of the Poor." A prospectus was issued, in which the following objects were set forth :—

"The object of this Association is to erect dwellings for the working classes, combining in their construction the several improvements in drainage, ventilation, a due supply of water, and such other advantages as shall be calculated to render their sanitary condition as complete as may be practicable.

"The evidence produced before the Parliamentary Committee appointed to inquire into the health of towns, disclosed a state of circumstances connected with the domestic habits and dwellings of the poorer classes in the metropolis, and other densely-populated districts, fearful to contemplate, and urgently calling for a remedy.

"Many districts tenanted by the industrious classes do not possess a single sewer, or means of drainage of any kind. In numerous cases, whole families—parents, sons, and grown-up daughters—and in some, even two or three families, reside together, day and night, in a single room : and for this miserable accommodation, the most extravagant rents are paid.

"The rate of interest to be paid to the shareholders is not to exceed *5l.* per cent. per annum.

"*The liability of the shareholders is limited to the amount of their respective shares.*

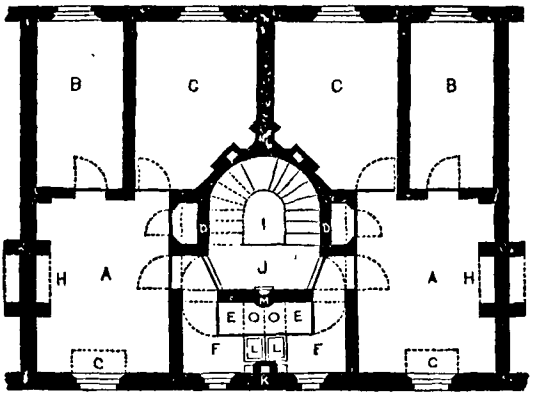
"It is confidently believed that the object of this Association may be carried into effect, so as to afford to the working classes healthy and comfortable dwellings on reasonable terms, and to remunerate the shareholders with an interest of *5l.* per cent. per annum."

Many philanthropic individuals came forward at once with their aid. Messrs. G. W. Alexander and Sir R. Howard took 50 shares each; the Rev. Mr. Blakesley, Samson Ricardo, and J. C. Sharp, 40 shares each; Lord Morpeth and W. B. Moffatt, 30 shares; Messrs. Barclay, Charles Carpenter, Lord Ellesmere, Edward Enfield, R. Franklyn, R. Gillum, Rev. C. Girdlestone, B. Sharpe, Rev. C. Which-

cote, W. A. Wilkinson, and Lord Dartmouth, 20 shares each; and the subscriptions of ten shares each were very numerous. In a work for ameliorating the condition of the poor, it was not likely the aid of British ladies would be wanting, and we accordingly find the names of numerous matrons and spinsters enrolled in the cause. The Duchesses of Sutherland, Norfolk, and Beaufort; Ladies M. Keppel, M. Bouverie, Ellesmere, Dowager Grenville, C. Greville, M. Fitzalan Howard, Wenlock, C. Cavendish, and Abercorn, and others. Mistresses Clarke, Devonport, Fletcher, Ommaney, Pennant, Bowles, Scott, Teed, Ware, Mather, and others. Misses Baylen, Benson, (10), Buchwald, Gatliff, Gilman, Girdleston, Sharpe, Spaling, Hare, Whichcote, (10); Wilkinson, Mether, Talbot, Bosanquet, Tydell, Brown, Taylor, Reed, Alexander, Hepburn, and Payne,—indeed, the spinsters muster very strong for good; and I have purposely introduced the names of ladies, to show how honourably to themselves, and how efficiently they are enabled to promote a good cause.

The state of the subscriptions was sufficiently encouraging. A royal charter was obtained on the 16th October, 1845, limiting the profits to 5 per cent. A plot of ground was bought, and a building raised capable of giving accommodation to 110 families, in sets of two and three rooms each, with separate scullery and water closet, an ample supply of water, dust-shaft descending to a common receptacle, and other conveniences. The following is the plan and scale of rents.

Plan of One Floor of the Houses containing distinct accommodation for Two Families.



REFERENCE.

AA—Sitting-room, 14 ft. by 10 ft. 6 in. BB—Bed-room, 12 ft. 11 in. by 6 ft. 10 in. CC—Bed-room, 12 ft. 11 in. by 9 ft. 7 in. DD—Closets, with Coal-box underneath. EE—Water-closet. FF—Scullery. GG—Shutters, forming a table during the day. HH—Ranges, Boilers, and Ovens. I—Staircase. J—Landing. K—Dust-shafts. LL—Sinks. M—Recess for Soil, Gas, and Water-pipes.

All the dwellings were to be let at the undermentioned rents, which circumstance, coupled with the fact, that the "Lodging-house for Single Men" in George-street, Holborn, is always fully occupied, shows that

the working classes gladly avail themselves of improved accommodation if offered to them, and affords to the shareholder the reasonable assurance of the due payment of the interest of 5 per cent., rendering the investment of capital on the security of the Association, eligible as such, if even divested of the humane and social considerations on which it is founded. The basis of the security is freehold and long leasehold estate, in the midst of large populations, and after allowing for the charges of management, (the bearing of which will become lighter, as the Association becomes larger,) and the payment of dividends, it is hoped and expected that an annual surplus will accrue, to be applied, under the terms of the charter, to the increase of the buildings. The security to the shareholders will thus be fortified by additions to the capital, without augmenting the claims for dividend.

Scale of Rents.

2	sets of	2	rooms at	3*s.*	6*d.*	per week.	2	sets of	3	rooms at	4*s.*	9*d.*	per week.
4	,,	2	ditto	,, 3	9	,,	5	,,	3	ditto	,, 5	0	,,
5	,,	2	ditto	,, 4	0	,,	15	,,	3	ditto	,, 5	3	,,
3	,,	2	ditto	,, 4	3	,,	24	,,	3	ditto	,, 5	6	,,
2	,,	2	ditto	,, 4	6	,,	26	,,	3	ditto	,, 5	9	,,
2	,,	2	ditto	,, 4	9	,,	12	,,	3	ditto	,, 6	0	,,
2	,,	2	ditto	,, 5	0	,,	6	,,	3	ditto	,, 6	3	,,

N. B.—Every set of rooms is furnished with boiler, range, oven, and a coal-box, in the lower part of the cupboard; and there is also a scullery attached to each set, containing sink, cistern, water-closet, and dust-shaft.

The Directors subsequently purchased a piece of freehold land at the end of Spicer-street, Brick-lane, Spitalfields, of sufficient extent on which to erect a lodging-house capable of accommodating 300 *single men, and also houses somewhat similar to those in the Old St. Pancras-road, suitable for families,* and they appeal with confidence to all who may be desirous of co-operating in a work of much social good, to contribute to the capital so urgently required: involving no liability to each party beyond the amount of shares subscribed for by such party, and with the promise of an advantageous return, when compared with many other classes of investment.

The Prospectus adds, "Persons taking shares will not be required to pay the amount already called from the present shareholders in larger instalments than 5*l.* in any one payment, at intervals of not less than three months.

"*Parties desirous of paying up the full amount of their shares at once, may do so, in which case they will be entitled to the same dividend on their shares, as the general body of shareholders paying their calls from time to time, and the overplus of the paid up shares which has not been called, will be invested in the public funds, and the dividends thereon paid to the parties so paying in full.*

"The terms of the charter do not restrict the operations of the Association to the metropolis, and the Directors have made arrangements for imparting the benefits, privileges, and immunities, granted by the charter, under this Association, to branch societies in districts wherever a sufficient number of shareholders shall be desirous of erecting improved dwellings for the industrious classes. The effect of these arrangements will be to ensure (as far as possible) the success of local undertakings, at the same time that those benevolent individuals who

may be disposed to subscribe for the benefit of their respective neighbourhoods will be made secure against all individual claim and liability whatsoever. Application has already been received from the parish of Hampstead to be admitted as an incorporated Branch Association, and similar applications are expected from other quarters."

On the 6th March, 1846, the Directors of the Metropolitan Association made their first Report to the shareholders. It comprised little more than a resumé of past labours; congratulated the shareholders on the removal of all difficulties, spoke of the subscriptions as a safe investment, and determined that a guarantee fund for the payment of the 5 per cent. was an essential part of the plan; stated that 1,000 shares had been subscribed for out of 4,000; but as the operations of the Association was not limited by charter to London, the Directors hoped to see the principle extended to other cities and towns.

In the second Report, dated 2nd December, 1846, the Directors stated that 28,676*l.* had been subscribed, and a certificate from one of the Secretaries of the Board of Trade authorized the Association to commence operations. In consequence the Directors say,—"An agreement for a lease for ninety-nine years, at a rental of 90*l.* per annum, has been entered into with the Brewers' Company, for a piece of ground opposite the church in the Old Pancras-road, leading from King's Cross to Camden Town, which is considered well adapted to the purposes of the Association; being situate in the immediate neighbourhood of a crowded district, having the advantage of streets on three sides, as well as an open space at the back, whereby good natural ventilation is obtained; and from the elevated position of the site, and its proximity to good sewers, a perfect drainage will be secured.

"With regard to the internal arrangement of the dwellings, the object kept in view has been to give to each family the greatest amount of accommodation at the lowest practicable expense.

"The rooms are so contrived, that an ample quantity of light is secured to each, while the dwellings are kept quite distinct and independent of each other, every family being provided with a separate water-closet. There are provided for each dwelling a supply of water, at the rate of forty gallons per day, a sink, and the means of carrying off ashes and refuse through a shaft, accessible from the scullery. The building will consist of twenty-one sets of two rooms, and ninety sets of three rooms of various sizes, each having the above conveniences attached; thus furnishing dwellings proportioned to the requirements of different families, and to their means of payment. In cases where there are two bed-rooms, each bed-room has a separate entrance from the sitting-room, and the larger bed-room has a fireplace.

"In the centre houses there is a small lobby between the outer and the sitting-room doors, and from this lobby the scullery is entered, the outer door shutting it off when any one is entering the sitting-room or house part, and the sitting-room door at all times excluding it. The water-closet is situate immediately on entering the scullery, the door of the former being so hung, as when open to shut off access to the scullery. The scullery is in communication with a ventilating shaft, to take off any effluvia arising therein.

"Under the slate sink in each scullery is a galvanized iron coal-box; and a meat safe is fixed against an external wall, in which an air-brick is placed.

"The living-rooms will be furnished with a range, boiler, and oven; and the shutters in the ground floor rooms are so contrived as to form a table during the day.

"There is a considerable space in the front of the building formed by the projection of the wings, which will be inclosed by plain iron rails, and afford a protected space for the children of the residents.

"A large space is also left at the back for a drying-ground."

At this early period the question of the window-tax upon the proposed building became a matter of serious consideration. The Directors state, "We have bestowed much time on the question of the window-tax, as bearing upon the dwellings proposed to be erected by the Association; and though this tax, according to the present mode of assessment, will bear heavily upon the tenants, they confidently hope that an alteration in the mode of rating will shortly be effected.

"According to the present mode of assessment, each set of rooms having four windows (being a portion of a large house having forty windows,) is liable to 7¼*d.* per week window duty; while a similar set of rooms or chambers in the same sized house, situate in the Albany, in Piccadilly, or in the Inns of Court, or in either of the Universities, is liable to a tax of only 1¾*d.* per set; this arises from a special exemption in the Act, operating to the foregoing extent in favour of the buildings for the wealthier classes.

"The Directors also find that an expense of 470*l.* will be incurred for cisterns alone, for the supply of water to the dwellings, such expense arising from the Water Companies giving their supply on the intermittent system, instead of the constant supply from the main, the latter system being in operation at Nottingham, Preston, and Ashton. At the former town, according to the evidence of Mr. Hawkesley, not only is the expense of cisterns saved, but the annual charge is only 4*s.* 4*d.* per annum, or 1*d.* a-week, while here it is, at the least, 14*s.* 6*d.* per annum.

"The Directors earnestly hope, that in any measures brought before Parliament, the shareholders will keep their attention fixed on these two points, which so deeply affect the interests of the working classes."

In conclusion, the Directors state that the first minutes of the Association were in September, 1842. In 1842 the number of shares taken was 4, in 1843 it was 23, in 1844 it was 252, in 1845 it was 469, and to the date of the Report 407, making a total of 1,155 shares taken. The progress was slow, but the English public very properly, even in an undertaking of this kind, viewed a prospectus for raising a capital of 100,000*l.* in 10,000 shares for building purposes with some doubt and suspicion.

To this Report the first balance-sheet was annexed. 2,094*l.* 3*s.* 7*d.* had been spent, and of this 1,139*l.* 7*s.* 8*d.* was paid at the Home Office for charter and law charges.

The third Report of the Directors is dated 23rd December, 1847. It does little more than state that the building is fast approaching to completion, and will be fit for occupation in February, 1848; and that in its then unfinished state 62 sets of the rooms had been applied for.

The Directors again recur to the unjust pressure of the window-tax in the following words:

"A deputation from the Directors had an interview with the Chancellor of the Exchequer on the 15th of November last, on the subject of a reduction in the window duty on these dwellings. This tax, as at present assessed, presses with great severity on dwellings of this class. None of these houses have more than four windows; were each house a separate cottage, it would be entirely exempt from the tax; but from the present mode of assessment, ten of these dwellings are charged at the rate of a forty-windowed house. The deputation were informed that if the Association would submit clauses which would relieve their dwellings from the operation of the tax, and at the same time protect the revenue from loss, by parties being admitted to the exemption who let lodgings to tenants of a higher class, or who let lodgings to the working classes, without affording the like sanitary arrangements, such clauses would receive consideration.

"Your Directors therefore feel that as your objects were appreciated and promoted by the late advisers of the Crown, so Her Majesty's present advisers are equally disposed to aid your efforts for the improvement of the dwellings of the industrious classes; and the Directors therefore call upon the Association to use their best exertions to enable the Government to carry any measure that may be introduced, for admitting to the habitations of the poor an unlimited supply of light and air."

The Directors add to this Report a recommendation to the expediency of erecting a dormitory for single men, similar to that established in George-street, Bloomsbury, by the Labourers' Friend Society, which has been attended with the greatest success, nearly every bed being occupied nightly in that establishment; but previously to coming to a determination on this point, they wish to consult the shareholders on a measure which will entail the necessity of an additional call.

It may be as well to state that the estimate of cost of such a building, and the probable remuneration, which was exhibited in the original Prospectus of this Association, is fully borne out by the experience of the Society above referred to.

A balance-sheet is added, by which it appeared that 9,505*l.* 9*s.* had been expended upon the building, and the total number of shares subscribed for was 1,181.

The fourth Report of the Directors is dated 30th May, 1848. They congratulate the shareholders in strong terms "that the principle which they have so long sought to establish, (viz., that money invested in improving the dwellings of the industrious classes would yield ample return on the capital invested,) is fast gaining ground.

"In proof of this they refer with pleasure to the sentiments expressed by His Royal Highness Prince Albert, at the Annual Meeting of the Society for Improving the Condition of the Labouring Classes, held at the Freemasons' Tavern on the 18th instant. That Society now advocates, to some extent, the views first promulgated by the Metropolitan Association in the year 1841, and the following extract from the speech of His Royal Highness may be considered to be the expression not only of the sentiments of His Royal Highness, but also those of the Sovereign, in favour of the principle on which this

Association is founded. His Royal Highness said, 'I have just come from the Model Lodging-house, the opening of which we celebrate this day, and I feel convinced that its establishment and prosperity will, by degrees, and at no remote period, occasion a most beneficial improvement in the domestic comforts of the labouring classes. It will exhibit to them that with real economy can be combined advantages which few of them have hitherto been acquainted with, while it will show to those who possess capital that they may *invest it with great advantage and profit to themselves*, in consulting the convenience and dispensing comforts to their poorer brethren. Depend upon it that the interests of often contrasted classes are identical, and it is only ignorance which prevents their uniting to the advantage of each other.'"

The Directors report the completion of the building, and that of the 110 sets of rooms 103 were let, the number of applicants being 197, some of whom were refused from want of proper references.

The different professions and trades of the occupants are as follows, viz., carpenters, cabinet-makers, pianoforte-makers, musical instrument-makers, printers, compositors, clerks, jewellers, engravers, silver plate-workers, chasers, plate-polishers, watchcase-makers, artists, engineers, mason, brush-maker, leather-cutters, cork-cutters, railway policemen, tailors, porters, painters, grainers, coach-makers, blind-makers, gold-beater, coachman, cutler, postman, collectors to institutions, copper-plate-printer, ironmongers, whip-makers, pattern-designers, city missionaries, type-founders, chair-makers, stationers, carver and gilder, pensioner, teacher, baker, and needlewomen, and some few who do not follow any trade or profession.

Up to that time they had not had a single default in payment of the rent, and general satisfaction was expressed by the tenants with the extra comforts and accommodation afforded them.

The Directors had been unsuccessful with the Government in getting the window-tax reduced.

With reference to their former recommendation, they stated that they had purchased a freehold piece of ground for 1,300*l.*, in Spital-fields, upon which to build a house, or dormitory, for single men, and to comprise the lodgment also of 40 families at least. 1,258 shares had been subscribed for up to the date of the Report.

The balance-sheet shows that the buildings had cost 13,252*l.* 17*s.* 11*d.*

The last Report is dated May, 1849. It is the first occasion in which the details of a year's occupation can be given, and they are satisfactory throughout. The Directors say, "It affords your Directors great satisfaction to state that all the dwellings have been occupied, almost without interruption, from the date of their completion, and several applicants have been, and still are waiting for vacancies. 59 families have continued tenants since their respective dwellings were ready for occupation in January, February, March, and April, 1848. The total number of tenants has been 173, several of whom having left their apartments have subsequently wished to return. It is gratifying to your Directors to make this statement, and they have pleasure in being enabled to add, that not only have the tenants expressed themselves pleased with the superior comforts and accommodation afforded to them; but have also proved, by regularly paying their rents, and their general strict observance of such rules as your Directors have

thought proper to lay down for the management of so large a building, *that they are desirous of assisting them in preserving a high character of respectability in its occupants.*" The last trait mentioned by the Directors is of extended bearing and importance; it holds out a prospect that not only will such communities be advanced in their physical and social condition, but that a feeling will originate within themselves to maintain a certain moral standing; a certain pride of character, which will neither permit individuals nor their neighbours in the community from offending against a public sentiment. If such an amount of good alone resulted from similar institutions, there would be a well-grounded hope that the efforts of philanthropists, as well as practical men, would be greatly facilitated for the regeneration, the reorganization, or, at least, for an immense improvement in the moral and social condition of the labouring classes, upon whose well-being so much of the happiness and power of States depend.

"The Directors annex a balance-sheet, a general statement of receipts and expenditure, as in the fourth report, and, for the first time, a revenue and expenditure account; which latter shows the receipt of 1,382*l.* 12*s.* 4*d.* on account of rents, a sum which does not amount to so much as the total lettings would produce for an entire year; this is accounted for by the fact that some of the dwellings were not ready for occupation until the end of the month of June. For the week ending 15th May, 1848, the actual receipts amounted to 20*l.* 6*s.*, 29th May, 23*l.* 1*s.* 6*d.*, 19th June, 25*l.* 13*s.* 2*d.*, 3rd July, 26*l.* 16*s.* 2*d.*, and on the 10th July, 1848, 29*l.* 1*s.* 8*d.*, being about the average weekly rental. The rental, therefore, produced during this year must not be looked upon as the result of a year's lettings at the original scale of rents, viz., 1,527*l.* 10*s.*, although it is the full equivalent for the actual time of occupation. The experience of the year leads your Directors to anticipate that this rental may be increased.

"In addition to the sum of 1,382*l.* 12*s.* 4*d.* received on account of rents, the sum of 443*l.* 10*s.* 6*d.* has accrued as interest on Exchequer Bills, which with a sum of 1*l.* 19*s.* received for fees on transfers, gives a total income of 1,828*l.* 1*s.* 10*d.*

"From these gross returns, after deducting actual expenditure at the dwellings in the Old Pancras Road, amounting to 695*l.* 11. 9*d.*, and reserves, viz., 102*l.* 3*s.* 11*d.* for repairs, 35*l.* for a sinking fund to meet the cost of the St. Pancras Buildings, (which sum, at 3 per cent. compound interest, will realize, at the expiration of the lease of ninety-six years, 18,725*l.* to replace that investment,) also deducting 99*l.* 16*s.* 5*d.*, the balance due against these buildings at the date of the last audit, the *whole* of the expenses for the year amounting to 536*l.* 12*s.* 5*d.*, for printing, advertising, petty cash, rent, and salaries, there remains 358*l.* 17*s.* 4*d.* of available income for division amongst the shareholders. Of this sum your Directors recommend that 328*l.* 6*s.* be applied in payment of a dividend at 1 per cent. on 32,830*l.* 10*s.*, the capital already called up, and that the balance of 30*l.* 11*s.* 3*d.* be carried to the guarantee fund account, authorised by the 33rd clause of the charter. It will be observed, on reference to the general statement, that of this sum of 32,830*l.* 10*s.* only 17,225*l.* 5*s.* 3*d.* have as yet been invested in carrying out the objects of this Association; a considerable portion of the remainder having been invested in Exchequer Bills. The invest-

ment in dwellings, therefore, as appears by the revenue account, shows a net return of 3¼ per cent. within 10*l.*, after providing for the annual outgoings chargeable on them, to the extent of 832*l* 15*s.* 8*d.* Had the whole of the dwellings been ready for occupation during the entire year, the experience of the last nine months proves that full 1,527*l.* 10*s.* would have been received; deducting the same outgoings, from which a balance would have remained, showing 4 per cent. and a surplus of 5*l.* 14*s.* 4*d.* on the money expended on these dwellings.

"The working expenses of the Association, although they are now on a very moderate scale, will allow of considerably extended operations, without any material increase; so that when a larger amount of capital is employed in new buildings, the profit remaining for division will be proportionately greater.

"From the foregoing financial statement it is also evident that the increase of the capital to the full extent allowed by the charter, is desirable, even were there no other object in view than the pecuniary return; but your Directors are satisfied that you will feel, with them, that the statement they are enabled to make, with respect to the working of the St. Pancras Buildings, is of the most gratifying nature, forming strong ground for your using every endeavour to place new shares amongst your friends, at the same time that it shows a fair field for the investment of capital in a mode which will tend to the preservation of health and comfort to the honest artizan."

Three hundred and thirty-nine shares were taken in 1848, and the total number at the date of the Report was 1,527. The St. Pancras Buildings up to that date had cost 17,225*l.* 5*s.* 3*d.* For the fourth time the Directors failed with the Government to obtain a remission of the window duties.

The Directors, on this occasion, submit a plan of the whole of the ground purchased near Spicer Street, showing the relative positions of the dormitory in the course of erection, and the proposed dwellings for families; and call attention to the great advantages of having the buildings so contiguous; the lecture room used on an evening by the tenants of the dormitory, serving as a school room during the day for children residing in the dwellings; and the families, by distinct approaches, and at stated hours, having the use of the baths, wash-houses, and the cook's shop in the dormitory, the heat from the flues of which furnishes an inexpensive mode of ventilation.

Having shown the facts and feelings which originated this Association, shown its progress to its object, and the realization of so much of that object, as fully justifies entire confidence in the entire success of the whole measure, it now remains to consider how far, in addition to certain physical and economical advantages, this Association acts as an efficient auxiliary in the great efforts now making to improve the sanitary condition of towns. The best test for this would be the health of the population inhabiting the buildings of this Association; and I accordingly requested the Honorary Secretary, Mr. Gatliff, to have drawn out for me a weekly return, for one year, of the inhabitants, showing the male and female heads of families, children, weekly changes of population, number of deaths and previous occupation, age, and disease. Mr. Gatliff, with great zeal for the welfare of the institution, supplied this return in a few days. The weekly outgoings and

TABLE *showing the Population in the Metropolitan Buildings, Old Pancras Road, commencing at the date of the Fourth Report, (30th May, 1848, which sets out Occupation of Tenants,) and at the undermentioned Dates, Number of Deaths, Age, and previous Occupation, Cause of Death, and Number who have changed their Residences during the Month.*

Date.	Male Head.	Female Head.	Children.	No. of Population.	No. of Deaths and previous Occupation.		Age.	Disease.	No. who have left.	No. who come in.
1848.										
May 30	85	88	231	404						
to	left 7	8	20	35						
June 30	78	80	211	369						
	come in 20	21	68	104					35	104
June 30	98	101	274	473						
to	left 3	3	8	14						
July 30	95	98	266	459						
	come in 8	9	25	42					14	42
July 30	103	107	291	501						
to	left 9	9	died 1, left 26 = 27	45						
Aug. 30	94	98	264	456						
	come in 8	8	25	41	1	Child of Ann Bayman.—Mother a Brush-drawer.	18 mths.	Decline.	44	41
Aug. 30	102	106	289	497						
to	left 7	7	16	30						
Sept. 30	95	99	273	467						
	come in 6	6	10	22					30	22
Sept. 30	101	105	283	489						
to	left 15	16	died 1, left 37 = 38	69						
Oct. 30	86	89	245	420						
	come in 15	16	38	69	1	Girl. — Kingshott.—Father a Clerk.	17 or 18	Tumour.	68	69
Oct. 30	101	105	283	489						
to	left 11	11	25	47						
Nov. 30	90	94	258	442						
	come in 11	11	39	61					47	61

Nov. 30 to Dec. 30	101	105	297	503						
	left 6	6	13	25						
	95	99	284	478						
	come in 6	6	16	28					25	28
Dec. 30 to Jan. 30 1849.	101	105	300	506						
	left 12	13	died 2 left 31 } 33	58	1	Male Child.—Father a Carpenter.	3 mths.	Whooping Cough.		
					1	Male Child.—Father a Doctor and Farmer.	4 mths.	Convulsions.		
	89	92	267	448						
	come in 13	13	35	61	2				56	61
Jan. 30 to Feb. 28	102	105	302	509	1	Alfred Messenger, Compositor.	28 years	Acute Mania.		
	died 1 left 7 } 8	8	died 3 left 16 } 19	35	1	Male Child.—Father (W. Turner), a Brush maker.	3 mths.	Whooping Cough.		
					1	" " (Chas. Frisbec), a Wood-engraver.	..			
					1	" " (W. Turner), a Copperplate-printer.	..	Inflammation of Chest.		
	94	97	283	474						
	come in 8	8	15	31	4				31	31
Feb. 28 to Mar. 30	102	105	298	505						
	died 1 left 4 } 5	5	died 1 left 9 } 10	20	1	— Church, Sen.—Father of Mrs. Church.	79	Liver Complaint.		
					1	Female Child.—Father (W. Turner), a Printer.	4 years	Brain Fever.		
	97	100	288	484						
	come in 5	5	31	41	2				18	41
Mar. 30 to April 30	102	105	319	526						
	left 5	5	12	22						
	97	100	307	504						
	come in 5	5	17	27					22	27
April 30 to May 30	102	105	324	531						
	died 1 left 5 } 6	5	died 2 left 24 } 26	37						
					1	Geo. Posselwhite, Engraver.	60 to 70			
	96	100	298	494	1	Male Child.—Father an Engraver and Printer.	12 mths.	Abscess.		
	come in 4	4	14	22	1	" " "	5 years	Croop.	37	22
	100	104	312	516	3					
	2,405	2,492								

Whole Population 2·6 per cent. Adult Population 1·47 per cent.

incomings rendered it a somewhat complicated matter to determine accurately the per centages of deaths, and I consulted my friend Mr. Neison, who pointed out the proper mode of coming at the results in a satisfactory manner.

Hence it is seen that there has not occurred a single case of cholera, although the fatal disease is all around the buildings.

Having viewed the picture in detail in which a population is represented as comfortably housed, with the proper accompaniments of ventilation, proper supply of water, and cleanliness, let us turn to a state of things, the contrast of this picture.

In December, 1847, a committee of the Statistical Society of London inspected the dwellings, room by room, and condition of the inhabitants of Church Lane, St. Giles's, London. On the 17th January, 1848, their report was made to the Statistical Society. Church Lane is 290 feet long, 20 wide, and contained 30 houses. The population examined was 463, the number of families 100, and the number of bedsteads amongst them 90. There was an average, therefore, of above 5 souls to a bed; and many rooms were inhabited by as many as 22 souls, without water, without drainage, and without privies. The whole condition of these people was so revolting that the committee concluded their report in the following terms:

"Your Committee have thus given a picture in detail of human wretchedness, filth, and brutal degradation, the chief features of which are a disgrace to a civilized country, and which your Committee have reason to fear, from letters that have appeared in the public journals, is but the type of the miserable condition of masses of the community, whether located in the small, ill-ventilated rooms of manufacturing towns, or in many of the cottages of the agricultural peasantry. In these wretched dwellings all ages and both sexes, fathers and daughters, mothers and sons, grown up brothers and sisters, stranger adult males and females, and swarms of children, the sick, the dying, and the dead, are herded together with a proximity and mutual pressure which brutes would resist; where it is physically impossible to preserve the ordinary decencies of life; where all sense of propriety and self-respect must be lost, to be replaced only by a recklessness of demeanour which necessarily results from vitiated minds; and yet with many of the young, brought up in such hot-beds of mental pestilence, the hopeless, but benevolent, attempt is making to implant, by means of general education, the seeds of religion, virtue, truth, order, industry, and cleanliness; but which seeds, to fructify advantageously, need, it is to be feared, a soil far less rank than can be found in these wretched abodes. Tender minds, once vitiated, present almost insuperable difficulties to reformation; bad habits and depraved feelings gather with the growth and strengthen with the strength. It is not properly within the province of your Committee to offer suggestions, but they cannot refrain from expressing their belief, that the surest way to improve the physical and moral condition of the labouring classes, and to give education a fair field, is for wealthy and benevolent individuals throughout the country to form local associations, and by the aid of Parliament, to possess themselves of all such buildings as we have described, whether the house in the town, or the cottage in the country; to rebuild suitable roomy dwellings, properly drained, venti-

lated, and supplied with water, and to rent them so CHEAP to the poor, that they shall have no excuse for herding together like animals. In this way the great evils of over-crowding may be remedied for that large class of our labouring population which is prepared to adopt habits of cleanliness and decency: but nothing short of compulsory legislation can meet the case of the low lodging-houses and rooms sub-let after the manner of those described in this Report.

"Nothing can be conceived more mischievous than the system of sub-letting in almost universal operation in the houses inspected by your Committee. The owner of the property lets his houses to a sub-landlord, this sub-landlord lets his rooms to individual tenants, and these tenants let off the sides or corners of the rooms to individuals or families. Cheap houses will go far to give the death-blow to this fatal system; and to build cheap houses, deserving of the name, appears to your Committee a work of preventive charity worthy of all encouragement."

Such an evil condition of things could have but evil results, and the Registrar-General gives the following mortality from cholera in Church Lane:—

			Metropolitan Buildings.
Week ending 11th August, 1849.	Deaths from Cholera	8	None.
„ 18th „	„	10	None.
„ 25th „	„	6	None.
„ 1st September	„	2	None.
„ 8th „	„	3	None.
		29	

In the Registrar-General's Report, ending the 8th September, 1849, the Registrar of the district of St. Giles's has the following observations:—

"In reference to the deaths registered in the week ending Saturday, September 8th, Mr. Simpson, the Registrar, states that the deaths from all causes exceed that of any previous week, and that the mortality from cholera and diarrhœa is also larger than on any previous occasion. It is satisfactory to find that the deaths from cholera last week in Church Lane are reduced to two, independent of those occurring in the workhouse, which have been removed; but in the surrounding district they have increased. The mortality from the prevailing epidemic in Church Lane (the 'rookery,') among the poor Irish families has been excessive; it first showed itself on the 21st of July. There are 15 houses on each side of the way, and 28 deaths will be found in my returns, as follows:—In the house No. 3, Church Lane, three deaths have been registered, at No. 4, two, No. 6, two, No. 7, four, No. 8, two, No. 15, one, No. 17, one, No. 18, three, No. 20, one, No. 21, two, No. 22, two, No. 24, one, No. 27, three, and No. 28, one. Many of the inhabitants of the lane have dispersed, and the deaths of several have been registered elsewhere, independent of those removed and dying in the workhouse."

Hence it is seen that while the miserable abodes in Church Lane teemed with death, and that the consequent panic put to flight and dispersed the mass of the wretched inhabitants, there was not a single case of cholera amongst a larger population in the buildings belonging to the Metropolitan Society.

This gratifying fact, combined with the comfort in the condition of the people—the indications of a prevailing sentiment of order and propriety—and the prospective views of the parents, in securing to the great proportion of their children a certain amount of education either within their own limits or in neighbouring schools, justify the philanthropist in asserting that if the great moral evils, existing and advancing in the land in a large class of the community, are not capable of being eradicated by human agency; they are, at least, capable of very considerable amelioration, and that if those with the means, whether male or female, will either join the Metropolitan Association, or locally associate themselves together on the principles and with the objects of the Association in London for improving the dwellings of the poor, they will have the means in their own hands of making comfort, contentment, health, and gratitude take the places of wretchedness, recklessness, disease, and discontent.

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From the JOURNAL OF THE STATISTICAL SOCIETY OF LONDON.
MARCH, 1855.

Statistics of Nice Maritime. By COLONEL SYKES, F.R.S.

[Read before the Statistical Section of the British Association for the Advancement of Science at Liverpool, 22nd September, 1854.]

NICE (in Italian, Nizza) MARITIME, a town of very early origin, is situated in latitude 43° 41′ 17″ north, and longitude 4° 56′ 28″ east of Paris, in the valley of the mountain torrent of the Paglion, at its embouchure. In the midst of the town, or rather between the town and the harbour, stands an isolated dolomitic hill, now cut into shady walks and planted with shrubberies, but formerly crowned with a château or fortress, often subjected to the vicissitudes of the fortunes of war, and the scene of many striking events of both a political and social character. The territory of Nice is the western extremity of the ancient Ligurian republic; and it is separated from France by the river Var. Nice has been successively subject to the control of the Phœnicians, Vediantians, Romans, Bourguignons, Visigoths, Lombards, and Dijons; the Kings of France, Kings of Arles; Counts of Provence, Counts of Barcelone; the princes of the House of Anjou, Joan of Naples, and finally to the House of Savoy. Very few of the numerous facts of history can legitimately come within the compass of statistics; and I shall limit myself, therefore, to noticing only some striking points. The Phœnicians are supposed to have been the first settlers, and to have called the place Nika, from having achieved a victory over the Ligurians, who had advanced to drive them out. When Cæsar invaded Gaul, he found a respectable arsenal already established, and it proved of service to him in his designs. The Roman governors, however, appear ultimately to have made the slope of part of the neighbouring range of hills, about thirty minutes' drive up the right bank of the Paglion, now called Cimiès, and anciently *Cemenelion*, the seat of government, as is testified by the existing remains of an amphitheatre, an aqueduct, baths, and foundations of buildings. The Lombards destroyed this town in 577. Augustus removed the arsenal from Nice to Frejus; and from this period the importance of the place diminished. After the fall of the Roman Empire, Nice had many masters, until, in the fourteenth century, it depended on Joan of Naples; but she being unable to afford it aid or protection in the conflicts going on with Louis of Anjou, she released the people from their feudal obligations, and gave them permission to choose any prince for master whom they might think most capable of affording them protection; and in consequence, in 1388, they adopted, as their prince and chief, Amédée VII, Duke of Savoy; and it has remained with this family since that period, with the exception of the interval from 1792 to 1814, when it was annexed to the French Republic, and made head of the department of the Maritime Alps. The fall of Napoleon occasioned its restoration to the Savoy family.

In 1538, a remarkable meeting took place in Nice, nominally on

the subject of the peace of Europe, but really each party in pursuit of his own interests, between Francis I. of France, Charles V. of Germany, and Pope Paul III. This meeting was commemorated by the erection of a large marble cross, which has given the appellation of Croix de Marbre to the western part of the town, where it now stands. The French threw it down in 1792; but the Countess of Villeneuve, in 1810, raised it again at her own expense. In 1543, the French, under the Duke d'Enghien, besieged the château by land; while the Turks, under Barbarossa, beleaguered it by sea. This siege developed one of those instances of female patriotic heroism which have characterized every country and age. A breach was made and unexpectedly stormed while the garrison was taking its meal; the place was likely to be carried; when the wife of one of the soldiers, named Caterina Segurana,* and with the sobriquet of Malfaccia, from her extreme plainness, rushed to the defence, struck down a standard-bearer who was passing the breach, seized the standard, and, by her energetic example, so stimulated the troops, that the assault was defeated with great slaughter. In 1690, the French, under Marshal Catinat, besieged the château, and a bomb having fired the magazine in the donjon, which was built by the Arragonese in 1176, the place capitulated; and in 1706, the Duke of Berwick finally demolished the fortress; and the locality, as I previously said, is now devoted to peaceful enjoyment and sylvan beauty.

Physical Features.—Nice is situated at the bottom of a bay, the promontories of which are Antibes in France to the west, and that of Villafranca, the ancient Olivula, to the east; the latter runs rapidly into the ridge of Montboron, 731 feet high, and is continued in Turbia (a corruption of Trophœa Augusti, the remains of the trophy

* The Baron de Bazancourt in his Nice, 1853, quotes (p. 346), the President Lambert, and says, Durant in his History of Nice says that in the MS. notes of Jean Badat, now at Turin, Badat saw and knew Catherine Segurana, and describes her as excessively ugly and repulsive. Scalier also, in his History of Nice, still in MS., and bought by the town, says that in 1543, when the town and fortress were besieged by the Turks, under Barbarossa, by sea, and the French, under the Duke d'Enghien, by land, a breach was made in the town walls at the gate Pairolière and the tower Sincaire, and the besiegers, on the 15th August, mounted the breach: a woman of the common class, called Catherine Segurana, but nick-named Maufaccia in patois (Malfatta in Italian) from her ugliness, was taking her soup with her husband in the bastion when the assault commenced, rushing into the midst of the fray she seized a Turkish standard from the hands of the ensign, killing the bearer, and this example of courage and devotion was so effectual that the assault was repulsed with great loss. From Lambert not mentioning this affair some have looked upon the whole as apocryphal, but Jean Badat speaks of a personal knowledge; moreover there is an armless and defaced bust of her in the Hôtel de Ville, and Scalier, in his MS. history, says this bust was over the gate Pairolière, with the inscription:

Nicæna Amazon,
Irruentibus Turcis occurret;
Ereptoque vexillo,
Triumphum meruit.
1543.

But the clearing away, in 1782, of the gate and ramparts to form the Place Victoire, occasioned the removal and dilapidation of the bust—the face hard and severe, with strongly marked lines.

monument of Augustus being there), and Turbia again is overlooked by Pacanaïa, 1,950 feet high, constituting part of the Maritime Alps, or, according to some authorities, the Apennines, it being asserted that the Apennines have their origin at the point of crossing of the Corsican and Pyrenæan systems to the east of Mount Clapier, one of the culminating points of the Alps, 3,070 metres high, the first inflexion of which is the Col de Tende, 1,795 metres high; and thence the range is considered to run to Naples. Passing round to the north and west from Pacanaïa, and looking up the valley of the Pallon, Monte Calvo is seen, with its bald head as its name implies, 2,800 feet high. Further to the west, the ridges occur in which the fountains and valleys of Mouraille, Fuonte Santa, Templi, Sombre, and Magnan are situated; and rising behind these western ridges the Estrelles of France are seen; and in the extreme distance, behind the point of Antibes, and nearing the sea, the isolated mountain of Monte Rosso, a mass of *red* porphyry, bounds the horizon. All the low hills, ridges, and mountains, the latter nearly to their summits, are covered with perennial verdure; and the productions of every zone are seen on their slopes, flanks, and bases, from the sugar-cane, date, pomegranate, orange, millets, &c., of the tropics, to the vine, olive, loquat, apple, pear, chesnut, of temperate climates, to the northerly oak, birch, beech, and pine, bordering eternal snows and glaciers. In fact, a spectator standing upon one of the promontories, or, indeed, on the shore, in some places on the line of coast called the Corniche, between Genoa and Nice, may command in one point of view the vegetable productions of every zone of the earth, as the sight is carried up from the burning shore to the snowy peaks of the Alps.

Geological Features.—For notices of the geology and natural productions of Liguria, embracing Nice, I am enabled to avail myself of a very valuable and hitherto untranslated work presented at the eighth meeting of the scientific men of Italy at Genoa in 1846. It was the result of the combined labours of a commission of scientific men, who mutually contributed the stores of their knowledge in various branches of science, to render a report worthy, by its completeness and accuracy, of the acceptance of the meeting to which it was offered. It consists of four parts, in three volumes. The first part comprises Unorganized Nature; the second part Organized Nature; and these two parts make the first volume. The third part treats of Man (Ethnology); and the fourth part of the monuments and works of art, constituting the third and fourth volumes. The first volume contains a geological map of Liguria, and tables of animal and vegetable products, and topographical maps. The Marchese Lorenzo Pareto, assisted by Professor Garibaldi and Signor Fortunato Ciscia, had the compilation of the first part; and the natural history was contributed by the Marchese Spinola, assisted by the Marchese Carlo Durazzo, Professors Sassi and Amotaris, and Signor Gio. Batta. Verany. The third and fourth parts were presented respectively by the Marchese Camillo Pallavicino and Signor Cristoforo Gandolfi, aided by committees. With such ample and trustworthy sources of information in print, it is to be regretted that they are not available to the English public in an English form.

For myself, in the present paper, I must not venture to do more than give a hasty analysis of the facts in geology and natural history, which have a necessary relation to Nice as a part of Liguria. Genoa is distant 180 miles from Nice, and the intervening tract consists of a succession of mountain spurs from the Alps, which run out into the sea, forming headlands and deep narrow bays at sea, and valleys on shore. The rocks, almost exclusively near the shore, are of Macigno Jurassic limestone, granular limestone, and dolomite; and the only patches of granite, three in number, which appear in Pareto's map, are near to Savona and Varazze. The Colle de Tenda, 1,795 metres high, and Monte Gros, 2,520 metres high, in the central chain, are respectively schist, Macigno, and calcareous schist, with nummulites on the flanks and ridges. Between the Colle de Tenda and Ponte Bernardo and Borsezo, on the French borders, several rivers have their origin, which run different ways — the Stura and Grana, north-east towards the Po, the Tinea and Varo, south to Nice, and the Durance, south-west through Provence. It is in this region some Italian geographers consider the Apennines to commence, and not to the east of Genoa. Some equivalents of the green-sand are found within a radius of a few miles of Nice. Monte Calvo is a mass of dolomite; but on the eastern flank green-sand fossils are found. On the western flank, brown arenaceous limestone (tertiary), and on the flank of Monte Calvo, at 2,800 feet, bony breccia, exist. At Fuonte Santa, on the road to Genoa, dolomite is flanked by green-sand fossils: the same occurs at St. André, up the Paglion, the green-sand beds being of arenaceous, argillaceous, or marly limestone. At the Grotto di Falicon dolomite appears, and compact light-coloured limestone, with the equivalents of green-sand. Westward of Monte Calvo, tertiary deposits, consisting of rolled pebbles, appear at Magnan, le Vallon Sombre, in the neighbourhood of St. Barthélemy; and at the point of Antibes, and at Magnan and Madelaine, blue clay crops out with fossil shells. Osseous breccia is met with, in connexion with dolomite and indurated light coloured limestone, at Cimiés, and in a fissure in the dolomite and compact light-coloured limestone of the castle hill bones were met with embedded in red marl, which Cuvier pronounced to be those of the horse, of deer, and of a *felis*, approaching the lion. Nummulites are met with at Beaulieu and Eza.

Montboron, 542 feet high, which separates Nice from Villa Franca, and on the promontory of which is situated the lighthouse, consists of dolomite and compact light-coloured limestone: the ridge rises to 751 feet, where is placed Fort Montalban. Midway down the descent, on the east side to Villa Franca, the limestone comes to the surface, and a considerable area is water-worn (although there is not any fall of water now) into fantastic small holes, basins, cauldrons, and other forms so well known to result from the attrition of pebbles moved by eddies of water. Villa Franca, which is only thirty-five minutes' drive from Nice, is situated in a beautiful small, almost land-locked, bay. The cape of the opposite shore, St. Hospice, comprises green-sand equivalents; and at Beaulieu, at the eastern side of the peninsula of Villa Franca bay, a raised beach is met with

* Sir H. de la Beche.

twenty feet above the present sea-level, with recent shells; and, close by, minute nummulites and gryphites occur in *contorted* strata. Not extending our notice beyond Mentoni, six hours' drive on the Genoa road, we find Eza (dolomite and compact limestone), the sanctuary of Laghet, marine arenaceous limestones, with a tertiary crest behind La Trinità; then La Turbie (ancient Trophœa Augusti), dolomite and compact indurated limestone; Monaco, the ancient Portus Herculis, dolomite and compact limestone; and, finally, Mentoni, where the brown arenaceous limestone strata are *perpendicular*. Roquebrune, a village a short distance before reaching Mentoni, stands upon a pudding-stone rock of marl, limestone, and dolomite pebbles. Following the road to Turin from Nice, up the valley of the Paglion, the limestone beyond the château of St. André is stratified in thin beds, the strata dipping in different localities at different angles, showing a great amount of *disturbance*, which is, indeed, observable everywhere around Nice. Reviewing the geology of Nice and its neighbourhood, we find a characteristic feature in the dolomite, which is indurated, massive, unstratified, destitute of fossils, and underlying the limestone rocks, as if it were irruptive. The limestones rest upon the dolomite, are stratified, fossiliferous, contain dog-tooth spar, and range in character from crystalline (not marble) to arenaceous and argillaceous; and in hardness, from compact to friable and pulverulent. The gravel of the beach is destitute of siliceous pebbles, and consists entirely of rolled fragments (a lenticular form prevailing) of the above rocks. The equivalents of green-sand and tertiary deposits occur; but granites, schists, greenstones, porphyry, and the trap rocks (except in the three instances mentioned) are not met with in the mountains of the coast, although the trap and red porphyry of the Estrelles and of Monte Rosso are visible from Nice. It may be noticed that the dolomite forms a durable and excellent building-stone, and the compact limestone is equally good.

Nice and the Ligurian territory are rich in the products of the vegetable kingdom, but it must suffice to enumerate the chief families and species.

Vegetable Kingdom.—There are *enumerated 124 families, 2,231* species, and 151 varieties. The families most numerous in species are the Cruciferæ, 104 species and 5 varieties; Leguminosæ, 189 species and 19 varieties; Umbelliferæ, 109 species 7 varieties; the Compositæ,* 282 species 14 varieties; Graminaceæ, 185 species and 5 varieties; Labiatæ, 89 species and 3 varieties; Ranunculaceæ, 65 species 14 varieties; Sileneæ, 44 species 3 varieties; Rosaceæ, 44 species 6 varieties; Campanulaceæ, 30 species; Boraginiæ,† 36 species 2 varieties; Antirrineæ,‡ 45 species 1 variety; Primulaceæ, *25 species 1 variety; Euphorbiaceæ, 30 species 5 varieties;* Orchideæ, *52 species 1 variety; Asparageæ, 15 species;* Gigleaceæ, 55 species *1 variety; Junceæ, 22 species;* Cyperaceæ, 69 species and 3 varieties; *Cupuliferæ, 12 species; Coniferæ, 18 species;* Violaceæ, 12 species; *Geraniaceæ, 18 species; Lineæ, 13;* and Pomaceæ, 14 species. The

Nettle (Urtica urens), the fig, mulberry, hop, and bread-fruit, belong to the same family of Urticaceæ.

* Aster, &c. † Heliotropium, &c. ‡ Digitalis, &c.

Cryptogameæ family present Ferns, Lichens, Fungi, Algæ, Confervæ, &c.: the Zoöphytes, Sertularini, Cellariani, Millipores, Corals, Sponges, Alcioni, &c. One species of Fig and two Cucurbitaceæ only, Oleaceæ seven, Laurineæ (*Laurus nobilis*), and two Palms. The reputed Aloe, which makes so picturesque a figure in Nice landscapes, is the *Agave Americana*. The two Palms are the *Chamærops humilis* and the *Phœnix dactylifera*. The Coniferæ embrace seven Junipers, and seven Pines, the *sylvestris* at the head, and the *Pinus pinea*, with its edible kernels, the sixth in the list. There are also two *Abies*, *excelsa* and *pectinata*. And I saw the Dewdar in the garden of the Villa Arson. There are seven species of Oak (*ruber*, *ilex*, *Apennina*, &c.), one Birch (*sylvatica*), one Chesnut, and one Hazel-nut (*Corylus avellana*). The Mulberry is the *Morus nigra*, and the Fig the *Ficus carica*. The Poplars are the *Populus tremula*, *alba*, *nigra*, and *pyramidalis*. The Labiatæ comprise the Lavender, Mint, Rosemary, Sage, Thyme, Hyssop, &c. In the Solanaceæ we find the Potato, but not of a superior kind; the Egg-plant, the Belladonna, Hyoscyamus (2), and Datura (2). In the Convolvulaceæ the sweet potato is not mentioned. There appears only one species of Olive, *Olea Europæa*. One Rhododendron (*ferrugineum*). Amongst the Umbelliferæ the tropical *Coriandrum sativum* appears to thrive. The Prickly Pear (*Opuntia vulgaris*) grows abundantly, also the Myrtle, on the hills. The European fruits, apples, pears, plums, and peaches, are plentiful, but with less flavour than farther north. The Pomegranate fruits well (*Punica granatum*), also the Loquat of China.* There are eleven Roses. Green peas are served in January. The Trifolium and Medicago flourish in the winter as fodder. The Asiatic Zizyphus grows robustly; twelve Geraniums and thirteen Linums; and the fibre of the *Linum usitatissimum* is seen on the distaff of most peasant-women. Of the Vine, the only species is the *Vitis vinifera*. Of Violets, there are twelve species: some of them are strongly scented, and they are cultivated for extracts. Of Mustard (*Sinapis*), five species. The Orange family is limited in its varieties; most of the fruit is small, and the skin, as well as that of the lemon, is thick, and the fruit is not so fine as in Italy or Spain.

Molluscous Animals.—Zoöphites lead to Molluscous Animals, the families and genera of which, both naked and housed, are numerous, and many of them are prized as food. Of the lowest grades, twelve species of Polipes are enumerated; ten of *Acalephæ fisilici* (Sea-nettles), thirteen of *Acalephæ Medusici*, Echinodermes (radiated animals, sea-eggs, sea-urchins, &c.), sixteen Asterici, Echinici and Oluturici, eight. The Annelides (leeches, worms, &c.), footless, antennated, and sedentary, comprise more than forty genera and species. Of the Medusæ there are thirteen species.

The *Acephala testacea* are numerous, thirty-six genera and eighty-three species; and one of them, *Lithodoma lithophaga*, vulgarly called the Dettao de Mâ, is introduced at most tables and esteemed. The scourge of ships, the *Teredo navalis*, belongs to the same order. Of the *Acephala libera* (snails without shells): two are vulgarly called Brugnion and Tettinotti (*Ascidiaveræ*). The ovaries of the Brugnion are eatable; and the Tettinotti serve fishermen as baits. The Gas-

* Mespilus loquat.

teropods number eighty-nine genera, and about 269 species. Thirty-one species of Helix are named, and many species are eaten. The naked Gasteropod (*G. paticoïdes*) is prized in Nice, but disliked in Genoa. The Cephalopods number thirteen genera only (*Sepia, Loligo, Octopus,* &c.), and thirty-one species; but individuals are numerous and are most useful to man in supplying healthy and exquisite food, such as the *Totani, Sepiæ*, and others which are not too large. The Italians extract an ink from the Sepia. The Crustaceæ comprise more than 100 genera and species; but the Land Crab, although found in Tuscany, is not seen in Liguria.

Fish.—The ichthyology of Italy embraces 670 species of fish, according to the Prince of Canino; and of this number, 212 species are met with between Genoa and Nice; and there is reason to believe they amount to 280, including the fresh-water fishes. About two miles distant from the coast extends a long line of Algæ, principally of the *Caulinia oceanica*, like a marine wood, which affords stores of food for the fish; but the fishing extends beyond this to a distance of about twenty-three miles, where, the mean depth of the sea being about 800 metres, fishing ceases, and the region of sharks is entered. Although the great bulk of the fish is characteristic of the Mediterranean, there are some common to the Northern Ocean and the Cape of Good Hope, and one which is found in the Red Sea. Several of the species migrate from one part of the Mediterranean to the other, according to the season; and amongst others, the Sardella or *Clupea Sardina*, and Red Mullet (*Apogon rex mullorum* —Cuv.), or *Castagneria russa*, which, however, is only looked upon as of the third quality. One hundred and ninety-two patois names are given of all the fish found. The chief are the Sole (*Solea vulgaris lingua*), and two other species; the Murûn (*Centrolophus pompilius*), which is called the "king of fishes" at Genoa, and it is prized accordingly. Authors, who have spoken of it at Nice and Rome, compare it to indifferent flesh-meat, a prejudice, however, which arises from its having been boiled in its skin, which has a scent. It feeds upon Medusæ, lives in deep water, and attains a weight of fifty pounds troy. The Cavun (*Mullus barbatus*), Figao (*Sciæna umbra*), Impeatû (*Luvarus imperialis*), Luasso (*Labrax lupus*), Lüxerna (*Polyprion cernium*), Murmua (*Pagellus mormyrus*) Oa (*Sparus aurata*), Ombrinha (*Umbrina cirrosa*), Pagau (*Pagellus erythrinus* and *Pagrus vulgaris*), Re (*Lampris guttatus*) Rumbo (*Rhombus maximus*, two species), Rumbo bastardo (*Bothus rhomboïdes*), Sagao veaxo (*Sargus Rondeletii*). San Pè (*Zeus faber*) Sardinha (*Clupea sardina*), the young of which is called Gianchetto, and the middle growth Pazetta. Great quantities are salted and barrelled. The flavour of the fresh sardine is very sweet, and free from the oil of the herring of England. The young Gianchetto eat like white-bait. Serretto (*Lichia vadigo*), Spa (*Xiphias gladius*), excellent, and attains a weight of 500 lbs. troy. Treggia veaxa (*Mullus surmuletus*). These are the whole of the fish reckoned of the *first quality;* and the tables at Nice exhibited very few of them. All the rest of the 192 species are of the second, third, and fourth qualities, and not fit for a good table. The following are the largest fish caught, but none of them are good. The Müggio (*Notidanus cinereus*), 500 lbs. troy;

Cagnassun de fundo (*Odontaspes ferox*), 600 lbs.; Casi (*Squalus glaucus*), 2,000 lbs. Ancina (*Engraulis enchrasicolus*) is salted in great quantities. The young are called Gianchetto, and the same name is given to the young of the sardine, both being served up like white-bait. Ratto (*Alopius vulpes*), 625 lbs.; Tunno (*Thynnus vulgaris*), a fish of the second quality, caught from a weight of 3 lbs. to 900 lbs. Verdun (*Squalus glanus*), 500 lbs. troy. The Pegasus (*Hippocampus brevirostris*) is found, and is called Cavallo marin.

Reptiles.—The reptiles are few in genera and species: two Tortoises, six Lizards, seven Frogs, and six Serpents, the *Vipera aspis* being the only one venomous.

Birds.—According to catalogues of the Marquess Durazzo, Liguria is rich in birds. In one column is given the vulgar or patois name, in a second the scientific, and in a third notices of habits and habitats. The total number of species named is 343. The largest families, genera, and individual species, are the birds of prey, including the Owls, thirty-six. The largest genus is *Falco*, of seven species; and the next *Cercus*, of five species, curiously enough including, as a native of Italy, a species I first named (*Cercus pallidus*), as a native of the Deccan in India. Eleven Silvia's, eleven Salicaria's, only one Goatsucker, six Motacilla's, six Larks (seen only near Nice), including the Grivea (*Alauda arvensis*), so much esteemed and so generally introduced at tables, roasted on toast, with a thin layer of bacon-fat over it. The Merlo and Turdo, both Thrushes (*Turdus*), are also introduced at tables, when migrating in numbers. Nine Thrushes; the graceful Indian *Upupa epops*, five Crows, the Indian *Pastor roseus*, sixteen Sparrows (*Fringilla* and *Passer*), twelve Emberizæ, including the celebrated Ortolan (Nuttuan, *Emberiza hortulana*), sometimes caught in multitudes; four Pigeons and Doves, three Grouse, four Partridges, including the red (*Perdrix russa*) and grey (*P. sterna*); one Quail (the common), one Hemipodius and one Rock-pigeon (*Pterocles setarius*),* two Bustards (*Otis tarda* and *tetrax*), five Plovers, five Scolopax: the woodcock abundant, but the snipes less so. Sixteen Sandpipers (*Tringa* and *Totanus*), nine Herons (*Ardea*), two Cranes, an Ibis, a Spoonbill, the Flamingo (*Phœnicopterus antiquorum*), which is occasionally blown on to the coast by storms, and one beautiful, *Porphyrio antiquorum;* also the King of Quails (*Re di Quaglie, Crex pratensis*). The real aquatic birds number sixty-one genera and species, two Geese, one Swan (*Cygnus musicus*), seven Ducks (*Anas*), one Pelican (*Pelecanus onocrotalus*), two Cormorants, and nineteen Gulls and Sterns (*Larus* and *Sterna*). Such is an epitome of the feathered tribes of Liguria, in which I have rarely noticed genera limited to one or two species.

Mammals.—The Mammiferes of northern Italy are common to Liguria, except the bear, marmot, and the Stambecco or wild goat; the only injurious animal being the wolf, which is very rare, and seldom descends to the plains. There are two Hares (*Lepus timidis* and *variabilis*), the latter a mountain hare. In the sea there are two Seals (*Phoca*), and three Cetaceæ (*Delphinus delphis, Physeter macrocephalus*, and *Balænoptera musculus*).

Meteorology.—Having given a very rapid sketch or analysis of

* Seen only near Nice.

the physical features, the geology, and natural productions of Nice, there remains one branch of physics which, from its influence upon public health, I deem it right to discuss more elaborately—I mean its meteorology. Through the kindness of a French gentleman of the name of Teyssière, a resident at Nice, who has kept a very careful meteorological journal from the indications of trustworthy instruments, I am enabled to lay before an English public, I believe for the first time, records made three times daily of the barometer, thermometer, rain, and state of the sky and wind, which will enable any investigator to satisfy himself of the atmospheric phenomena for any day in the year 1853. No means were adopted, indeed do not appear to have been known, for determining the humidity of the air, either by the use of Daniell's hygrometer, or by the wet-bulb process. There is, therefore, a defect in this branch of the meteorology; but Mons. Teyssière will remedy this for the future by having apparatus constructed from drawings and memoranda with which I furnished him. Mons. Teyssière recorded a fourth observation at 10 p.m.; but, to save figures, I have not added a column for this hour in my tables of daily record; but the results of Mons. Teyssière's four daily observations are embodied in the monthly abstracts.

It is necessary to premise, that a set of standard meteorological instruments having been obtained for the Ecole de Commerce at Nice, in January last, Mons. Teyssière took advantage of their arrival to compare his own with them; and he found that his barometer read off 0·009 millimètre too low; a + addition, therefore, of 0·009 must be made to every observation of the barometer to give the true reading. The hours Mons. Teyssière adopted are the best for giving the daily minimum and maximum of heat—namely, sunrise and 2 p.m.; but those hours are not suited to eliminate the daily atmospheric tides so remarkably regular in the tropics, and which are decidedly pronounced in the meteorological observations made at Genoa, where the record hours were 9, 12, 3, and 9 p.m. Mons. Teyssière's records of the barometers are in the millimètre scale,* and of the thermometer, in the centigrade.† One of the chief features in the climate of Nice, it will be seen by the records, is the freedom from cloud. In 1,485 observations made during 1853, near 63 times out of every 100 (62·7) the sky was clear; and noting by whole days, nearly 60 out of every 100 (59·4) presented an uninterrupted azure. In 21 out of 100 observations, the sky was overcast; but for whole days only 11 in 100 had contained cloud. There were only 5 hazy days in the year, 3 of them in the month of June; and though there were 14 observations of haze, never amounting to an English fog, they were limited to the three hot months of June, July, and August. There is only a single record of fog or haze in the winter and spring months, and one in June and August. It was found to be stormy once in 100 observations. Rain was falling only 11 times in 100 observations, the greatest number occurring in May—32 times on 20 separate days, a very unusual circumstance, as in the Mays from

* To convert millimètres into English inches. 762 mm. are equal to 30 inches English.

† To convert centigrade into Fahrenheit multiply centigrade by 9 and divide by 5. To product add 32°.

1849 to 1852, the days on which rain fell were respectively only 5, 7, 9, and 8, instead of 20, as in 1853. The weather was stormy 13 times, chiefly in July and August; snow fell in January and February; and hail and thunder were observed twice in every 100 observations, and in every month except November. It was windy on 108 days.

Winds.—During the year 1853, no less than 1,390 observations of the direction of the wind were recorded. The two chief characteristics were, that it either did not blow at all, or that the wind came directly from the north. On 345 occasions it was calm, or on one-fourth of the whole observations, or with a north wind 291 times, amounting to 21 per cent.; and the only relaxation of this north wind was in the months of May and June: in fact, the aggregate of the winds from the northerly points of N., N.E., and N.W., is 548, and this number added to 345 calms, leaves only 497 winds from the other four chief points of the compass. These physical facts have a very grave bearing upon diseases as indicated in the hospital returns,—to which I shall call attention. The months of the year in which the fewest calms appear are January and February—19 and 12; and the months in which are the greatest number, June and July—50 and 36. A very singular feature is the almost total absence of winds from the south, on only 31 occasions in the whole year; in some months none at all, in others only once; and it chiefly appears in June, July, and August—3, 12, 4, and 6 times respectively. Once only in the whole year did it blow stormy from the south. Winds from the south-east were almost as rare as those from the south, amounting to only 4·1 per cent. of the whole observations. The chief strong or violent winds appear to be from the east and south-west—61 moderate and 63 strong, amounting to 8·9 per cent. from the east, and 122 moderate, and 47 strong from the south-west, making 12·2 per cent. of the whole observations. It blew also 31 times strong from the north-east, and 14 times from the north. The west wind amounted to only 10·7 per cent. The prevalence of winds from northerly points is susceptible of ready explanation. The temperature of the air of the basin of the Mediterranean, off the coasts of the Maritime Alps, is comparatively high, from the generally cloudless sky and the latitude. The Alps, which border the shore for a couple of hundred miles, have their summits tipped with snow for some months in the year, and many of them perpetually: the air, therefore, of these regions is necessarily cold and dense, and descends, by its superior specific gravity, into the lighter air of the basin of this part of the Mediterranean; but how far this northerly wind extends out to sea I do not know. Its effects at Nice, however, are very significant, for in promenading the shore, even in the winter months, when the sky is clear, few persons venture out after 9 a.m. without an umbrella to protect them from the heat of the sun on one side, while a cloak or great-coat is necessary to keep them warm on the other against the cold of the northerly wind from the neighbouring snowy summits. It is like being placed between an oven and an ice-house, or in the draught of wind between a fire and a door in a room. Nor is this an exaggeration, nor of occasional occurrence; and in addition, after a fall of snow in the neighbourhood,

while the eye is pained by the glare of the sun, at the same moment it is dazzled by the brightness of the snow on the summits and slopes of the hills.

Temperature.—Although in the accompanying abstract the mean temperature is given for four periods of the day, yet as two of them, sunrise and 2 p.m. are periods of maxima and minima, I shall limit my notices to them. The coldest month in the year at sunrise* is February, 38°·93 Fahr.; then December, 41°·13; and then March, 42°·24 Fahr. In January the thermometer did not fall once to the freezing point, and only once fell to within 3°·73 of freezing, the mean temperature at sunrise being 44°·87, and of the month 48°·68 Fahr. The mean temperature of February was 42°·55, of December 44°·85, and of March 46°·74. In February the temperature only fell twice to the freezing point (19th and 20th), although several times verging upon it. On the 19th and 20th snow, a foot deep, fell; and on the 7th, 8th, and 13th snow fell on the neighbouring hills, while rain fell in Nice. In March the thermometer did not once fall to the freezing point, nor was there a fall of snow. On the 29th, 30th, and 31st December, 1853, the thermometer fell to 28°·60, 31°·64, and 29°·66. In January, 1854, the thermometer fell just to the freezing point, on the 2nd and 3rd, at sunrise, being 4°·86 lower than in January, 1853. There was not any fall of snow in December, 1853, or January, 1854. Having given the minimum of the thermometer, I proceed to the maximum† indication, which was 90°·86 on the 3rd September, at 2 p.m., with a cloudy sky and south-west wind, in the shade, and with a north aspect. It had suddenly jumped up from 79°·34, at 2 p.m., without wind, on the preceding day, to this formidable height. However, on the 5th August, at 2 p.m., with a moderate wind from the south, the thermometer stood at 84°·2, and in the preceding eight days, at 2 p.m., it only once (31st July) stood as low as 81°·86. In June the thermometer rose twice to 77°·90 and 77°·0, on the 10th and 13th. The mean temperature at 2 p.m.‡ of June was 72°·52, of July 78°·89, of August 79°·56, and of September 73°·65. The mean temperature of these four hottest months, by four daily observations, was, June 66°·83, July 72°·61, August 75°·56, and September 66°·09. The mean range of temperature in the cold months, from sunrise to 2 p.m., was, in January 8°·64, in February 9°·29, in March 10°·64, and in December 8°·36. In the hot months the mean range was in June 10°·19, in July 12°·52, in August 12°·70, and in September 11°·20. The greatest range in the day in the coldest months was, on the 15th February, 15°·48, and 7th March 16°·38. In April there were several days when the range was a little more, particularly on the 25th, when it amounted to 20°·7. In the hot months, with the exceptional case of the great heat on the 3rd September, when the range on that day was 21°·96, the greatest range in the

* At Genoa, at 9 A.M., the mean of 10 years, 1833 to 1842, give February 46°·88, December 48°·59, March 50°·86, and January 44°·96.

† At Genoa, in 10 years, 1833 to 1842, the maximum was in July and August, 90°·50, and the minimum in January, 26°·42: range 64°·08.

‡ At Genoa, at 3 P.M., means of 10 years: June 75°·41, July 79°·07, August 79°·83, September 73°·37.

24 hours in the months of June, July, August, and September, was 16°·2 on the 8th September. The maximum mean range for the year was, from the mean sunrise of February, 38°·93, to the mean of 2 p.m. of August, 79°·56, namely, 40°·63. The greatest absolute range of the thermometer in the year was from 28°·60, on the 20th December, to 90°·86, on the 3rd September, a difference of 62°·25; but as this was an exceptional case, the next maximum may be taken, 84°·2 on the 5th September, which gives an annual range of 55°·60 Fahr.

Barometer.—The range of pressure of the atmosphere at Nice, like the range of temperature, partakes of a tropical character in the comparative steadiness of movement and absence of violent aberrations. The highest indication of a compared barometer in 1853-4 was 0·772 m. (30·393 in.) during the three periods of observation on the 26th January, 1854, and nearly this pressure continued for three days. On the 1st January, 1853, at sunrise, the pressure was 0·767 m. (30·197 in.); and these were the highest indications during the year. The smallest pressure occurred at sunset 9th February, and at 2 p.m. and sunset on the 19th February, after two days' fall of snow on the neighbouring hills, which was converted into rain in Nice on the 9th, and was 0·737 m. (29·015 in.); the extreme range of pressure, therefore, in the year was only 0·035 m.* (1·378 in.) The barometer stood for a whole day, on the 7th February, at 0·741 (29·173 in.), on the 15th December, for a whole day, at 0·742 m. (29·211 in.), and on the 5th January, 1854, at sunrise, at 0·744 m. (29 291 in.). The maximum monthly range was, in January, 1854, 0·028 m. (1·102 in.); in January, 1853, only 0·023 m. (0·905 in.); in February, 1853, only 0·021 m. (0·823 in.) The daily range of the barometer was very limited, rarely exceeding 0·004 m. (0·118 in.), on December only 0·003 m. (0·118 in.); but on the 20th May, in a thunder-storm, it amounted to 0·010 m. (0·393 in.) In the summer months the barometer scarcely moves for days together, as indicated by millimètres; and the daily range in June did not exceed 0·003 m. (0·118 in.), in July 0·005 m. (0.197 in.), in August 0·003 m. (0·118 in.), and in September 0·003 m. (0·118 in.) The highest monthly mean pressure was, in November, 0·7581 m. (29·846 in.); and somewhat unexpectedly, and contrary to tropical movements, the next highest was in July, 0·7580 m. (29·841 in.); but January followed, 0·7579 m. (29·837 in.); and February proved exceptional, being the coldest month, with the lowest barometer, 0·7473 m. (29·421 in.) Notwithstanding these observations, the atmospheric pressure appears to have certain relations to the position of the sun in the ecliptic, although not so marked as in India. But these relations are quite apparent in the ten years' observations at Genoa, where it is seen that the winter months have the highest pressure—0·758·08 m. (29·845 in.), and the summer only being 0·756·75 m. (29·793 in.), the difference, with a minus sign, = 0·053 in. The mean pressure in autumn was even less—756·21 m. (29·759 in.) equal to — 0·086 in. The mean pressure for 1853, at Nice, was 0·7552 m. (29·601 in.), and at Genoa, for the

* The extreme range in Genoa in 10 years, 1833 to 1842, was in Feb. 1834, from 0·775·66m. to 0·727·28m. in Feb. 1838, being a difference of 0·048·38m. (1·904in.)

ten years, 756·62 m. (29·788 in.) There are further indications of a tropical character in the daily tides of the atmosphere at Nice, and indisputably so at Genoa. This daily rise and fall of the barometer was first suspected in 1682, but elaborately eliminated in 1799 by Humboldt in tropical South America. Meteorological observations in India confirmed it: my own observations for years in the Deccan proved that it never failed for a single day, which proofs I extended in a recent comprehensive discussion of the meteorology of India; and in Europe, Sir William Snow Harris has eliminated the atmospheric tides at Plymouth; and Mons. Quetelet, in his meteorology of Belgium for 1853, gives curves of daily atmospheric tides of a marked and regular character. Meteorological observations at Nice and Genoa show that, in the neighbourhood of the Alps, the phenomena are traceable. The observations at Nice have the disadvantage of being made, not at the hours of periodic maxima and minima, which are 9—10 a.m., 3—4 p.m., 9—10 p.m., and 4—5 a.m., but they are made sufficiently near to those hours of maxima and minima to indicate that the daily atmospheric tide exists, when monthly means are struck. For instance, in January, 1853, at sunrise, the mean pressure was 0·753 m. (29·647 in.); at 2 p.m. it fell to 0·752 m. (29·606 in.) difference 0·041; and at sunset it had risen to 0·7526 m. (29·629 in.) a rise of 0·023. Similarly in February, at sunrise, the pressure was 0·7422 m. (29·220 in.); at 2 p.m. 0·7416 m. (29·197 in.) a fall of 0·023 in.; and at sunset 0·7420 m. (29·212 in.) a rise of 0·015 in. In July these feature are not quite so well borne out. At sunrise and 2 p.m. the mean pressure was identical—0·753 m. (29·647 in.), and at sunset it had only slightly diminished—9·7526 m. (29·629 in.) difference, 0·018 in.* In September there is the singular fact of the *mean* monthly pressure, at the three periods of the day, being absolutely the same, 0·7555 m. (29·744 in.), notwithstanding diurnal changes.

But at Genoa, the hours of observation being identical with the hours of maximum and minimum pressure in the tropics, the diurnal atmospheric tides are marked in every month, without an exception —

Mean Descent of Barometer from 9 A.M. *to* 3 P.M.

January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
—	—	—	—	—	—	—	—	—	—	—	—
000·63	000·27	000·92	000·74	000·55	000·51	000·41	000·65	000·62	000·73	000·67	000·75

In the same manner, without the exception of a month, the rising

* Had the barometer in use at Nice been cut to a fourth and fifth place of decimals, as would appear to have been the case with the barometers at Genoa, the daily atmospheric tides might have been as markedly developed at Nice as at Genoa. As I before remarked, also, the hours of observation at Nice were not so favourable to show the tides as those adopted at Genoa.

tide, from 3 p.m. to 9 p.m., is shown to exist, although in July it only amounted to + 000·07.

January.	February.	March.	April.	May.	June.	July.	August	September.	October.	November.	December.
+	+	+	+	+	+	+	+	+	+	+	+
000·61	000·97	000·71	000·63	000·42	000·16	000·07	000·27	000·48	000·47	000·56	000·54

In the monthly mean pressure of all the observations, as at Nice, there are indications of the pressure having a relation to the place of the sun in the ecliptic. When the sun is at the southern tropic, the pressure is greatest, and diminishes until the sun comes to the equator. According to the observations in India, the pressure at Genoa should diminish until the sun touches the northern tropic; and on the return south, the mean pressure should increase again. This is not exactly the case, as the pressure increases from the end of March to the end of July, but does not attain the winter maxima. After July the pressure diminishes, as in India, until October, when there is a small rise, and then a sudden fall in November, followed by a considerable rise in December. It is interesting to see these indications, although imperfect, of tropical phenomena.

Humidity.—As a Daniell's hygrometer was unknown at Nice, and as I was the first to furnish a drawing of a phsychrometer, or wet-bulb apparatus, just before leaving Nice, from the absence of observations no conclusive facts can be given with respect to the amount of moisture in the air. I cannot, however, abstain from expressing my belief that the asserted dryness of the air is attributable to the feelings induced by the prevailing winds from the Alps. Nice is situated on both banks of the Paglion, at its embouchure, on the shore, receiving the water-shed of the neighbouring hills, which percolates under the town: a stratum of clay, a few feet under the surface, prevents the water being absorbed below, and water, as is shown by the wells, is everywhere within three or four feet of the surface. Moreover, if the air were dry, the northerly wind and hot sun would rapidly absorb surface-water. Nevertheless, after rain, the shady sides of the streets remain damp for days, and the lanes in the valley continue muddy; and I have repeatedly seen, even in the open square of Vittoria, constantly exposed to the sun, patches of damp earth remaining for days after rain. At sunset, also, a damp feeling occurs; and it is deemed unwholesome to be out of doors for two or three hours afterwards. For the future, means will, I believe, be adopted to clear up these doubts.

Electricity.—Observations were not made to determine the electrical state of the air.

Rain.—There was not any record kept of the fall of rain, as measured by pluviometer, during 1853. Mr. Wilkins, in his book, says the maximum of an annual fall was 41 in.; the minimum 15 in.; and the mean annual fall of rain at Nice 24 in.: about the same as in London.

Meteorological Observations made at Nice Maritime during January, 1853.

Above the soil 59·06 feet, aad above the sea level 95·46 feet.

	Date.	North of Maison A. Tiranty.—Route de France.												Remarks.
		Sunrise.				2 P.M.				Sunset.				
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	
	1	0·762	10·9	N.W.	Clear	0·761	13·2	S.E.	Clear	0·761	10·1	N.	Cumuli	
Sunday	2	0·761	6·9	N W.	Cloudy	0·759	12·2	S.E.	Clear	0·759	9·0	Calm	Clear	
	3	0·758	5·8	N.	Clear	0·757	11·2	E.	Clouds	0·758	10·9	E.	Clouds	
	4	0·759	7·5	N.	Overcast	0·757	12·8	E.	Overcast	0·758	11·0	E.	Overcast	
	5	0·758	7·5	N.	Cloudy	0·757	12·6	E.	Overcast	0·757	11·2	Calm	Overcast	
	6	0·767	9·3	N.	Hazy	0·756	13·6	S.W.	Thick clouds	0·755	11·4	Calm	Hazy	
	7	0·757	9·0	N.	Rain	0·756	13·6	S.W.	Rain	0·756	11·4	S.W.	Rain	
	8	0·753	9·0	N.	Overcast	0·751	10·0	N.W.	Overcast	0·757	9·8	S.	Cumuli	
Sunday	9	0·751	9·9	Calm	Overcast	0·751	11·8	Calm	Overcast	0·752	11·0	Calm	Overcast	
	10	0·754	7·2	N.	Clear	0·755	12·6	S.	Fine	0·756	10·2	N.	Clear	
	11	0·756	7·5	N.	Heavy clouds	0·755	12·5	Calm	Clear	0·755	10·0	S.E.	Cumuli	
	12	0·758	7·0	N.	Cumuli	0·758	12·8	Calm	Clear	0·758	10·8	N.	Cumuli	
	13	0·756	7 2	N.	Cumuli	0·755	12·0	Calm	Cloudy	0·763	11·0	Calm	Cloudy	
	14	0·747	9·2	Calm	Cumuli	0·747	15·3	N.W. strong	Clear	0·749	12·5	N.W. strong	Clear	
	15	0·754	7·0	N.	Clear	0·753	11·6	N.W.	Hazy	0·753	10·0	S.W.	Cumuli	
Sunday	16	0·752	6·8	E.	Clear	0·750	11·5	S.W. strong	Hazy	0·749	9·5	W.	Hazy	
	17	0·748	9·0	N.W.	Overcast	0·741	11·7	W. violent	Clear	0·741	9·0	S.W. strong	Rain	
	18	0·743	6·8	N.W.	Clear	0·744	12·5	S.E.	Clear	0·746	8·2	N.	Clear	Storm of hail
	19	0·750	4·3	N.W.	Clear	0·751	11·8	S.W.	Clear	0·753	7·8	N.	Clear	and rain 2·30
	20	0·757	9·0	N.W.	Clear	0·757	10·8	N.	Clear	0·757	8·0	S.W. strong	Overcast	P.M.
	21	0·755	6·5	W.	Cumuli	0·758	11·2	S.E.	Cumuli	0 752	8·0	N.	Clear	
	22	0·743	5·2	N W.	Clear	0·744	12·3	N.W. strong	Clear	0·745	9·0	N.	Clear	
Sunday	23	0·748	4·2	N.	Cumuli	0·748	10·0	N.	Cumuli	0·748	9·0	N.	Clear	
	24	0·744	4·9	Calm	Clear	0·744	11·2	S.W.	Clear	0·744	6·9	N.	Cumuli	
	25	0 750	2·7	N.	Clear	0·749	10·5	E. strong	Cumuli	0·749	8·5	E. strong	Cloudy	
	26	0·748	6·0	N. strong	Overcast	0·748	10·0	N.	Overcast	0·748	10·0	E. strong	Overcast	
	27	0·751	7·5	N.E. strong	Rain	0·750	9·6	N.E. strong	Rain	0·749	8·0	N.	Rain	
	28	0·751	7·6	N.	Rain	0·752	10·9	S.E.	Overcast	0·749	8·0	N.	Overcast	
	29	0·754	8·2	N.	Cumuli	0·752	14·9	E.	Overcast	0·752	14·5	E. strong	Overcast	
Sunday	30	0·761	10·5	N.	Rain	0·750	12·0	Calm	Rain	0·750	11·0	Calm	Rain	
	31	0·751	7·2	N.W.	Clear	0·750	13 0	S.E.	Clear	0·751	10·0	Calm	Clear	
		23·337				23·316				23·320				
		0·753				0·752				0.752·6				

Meteorological Observations during February, 1853.

North of Maison A. Tiranty—Route de France.

	Date.	Sunrise.				2 P.M.				Sunset.				Remarks.
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	
	1	0·751	7·2	N.	Clear	0·751	13·0	S.E.	Clear	0·750	10·2	Calm	Clear	
	2	0·750	5·5	N.W.	Clear	0·750	12·0	S.W. strong	Cumuli	0·749	11·0	S.W. strong	Tempest	
	3	0·748	6·8	N.W.	Cumuli	0·746	9 8	N.	Cloudy	0·746	7·5	N.	Rain	
	4	0·743	5·6	E. strong	Much rain	0·743	6·0	N.	Much rain	0·744	3·8	N.E. strong	Rain	
	5	0·746	5·0	N.	Clear	0·744	11·2	N.	Cumuli	0·742	8·0	Calm	Cumuli	
Sunday	6	0·745	10·3	E. strong	Overcast	0·745	12·8	N.E. strong	Rain	0·745	8·8	N.	Rain	
	7	0·736	5·0	N.	Overcast	0·736	11·2	S.E. strong	Cumuli	0·736	8·7	S.W. strong	Clear	
	8	0·736	4·9	N.W.	Rain	0·734	8·0	N.W.	Cumuli	0·732	9·0	N.E. strong	Rain	Falls of snow on neighbouring hills.
	9	0·736	7·2	N.	Rain	0·736	12·0	S.E. strong	S.E. strong	0 736	9·0	S.W.	Clear	
	10	0·731	2·5	W.	Clear	0·732	9·5	S.W. strong	Clear	0·733	8·0	S.W.	Cumuli	
	11	0·736	2·2	N.	Clear	0·736	9·6	S.E.	Cumuli	0·737	6·7	N.W.	Cumuli	
	12	0·738	2·2	N.	Clear	0·738	9·0	S.E.	Clear	0·736	5·0	N.	Clear	
Sunday	13	0·739	4·0	N.W. strong	Rain	0·738	3·2	N.W. strong	Rain	0·739	4·0	N.W.	Snow	Thunder and snow at sunset.
	14	0·742	2·0	N.	Cumuli	0·741	6·7	N.	Clear	0·741	5 2	W.	Clear	
	15	0·749	0·0	W.	Clear	0·748	8·6	S.W. strong	Clear	0·749	5·0	S.W.	Clear	
	16	0·746	3·5	N.W. strong	Overcast	0·742	10·0	E. strong	Cumuli	0·742	5·0	E.	Cumuli	
	17	0·739	4·8	N.W.	Overcast	0·739	9·5	S.W. strong	Cumuli	0·738	6·0	Calm	Clear	
	18	0 735	3·5	E.	Cloudy	0·735	4·0	N.E. strong	Snow	0·735	2·3	Calm	Cumuli	Heavy snow.
	19	0·734	−0·5	N.E. strong	S. w	0·733	6·5	S.W.	Cumuli	0·733	3·5	Calm	Overcast	Snow a foot deep in the town during night.
Sunday	20	0·735	0·0	N.W.	Clear	0·738	8·0	S.E.	Clear	0·740	5·5	N.	Clear	
	21	0·748	1·0	N.	Clear	0·749	8·6	S.	Clear	0·751	6·2	N.E.	Cloudy	
	22	0·753	2·6	N.	Cumuli	0·752	9·2	Calm	Overcast	0·752	5·0	Calm	Cumuli	
	23	0·750	1·4	N.W.	Clear	0·747	7·9	S.W.	Clear	0·746	5·3	Calm	Cumuli	
	24	0·733	4·5	W.	Gray	0·734	7·6	N.W. strong	Overcast	0·746	5·4	N.W. strong	Clear	
	25	0·741	2·0	N.W.	Gray	0·737	9·1	N.W. strong	Clear	0·738	7 4	N.W.	Clear	
	26	0·748	2 5	N.W.	Clear	0·750	10·0	S.W.	Clear	0·749	7·0	W.	Clear	
Sunday	27	0·749	7·1	W. strong	Overcast	0·748	13·0	W. strong	Clear	0·746	11·0	W. strong	Cumuli	
	28	0·745	7·5	N.	Foggy	0 744	9·0	N.E.	Rain	0·744	7·6	Calm	Rain	
		20·782				20·766				20·775				
		0·742·2				0·741·6				0·742				

	Date.	North of Maison A. Tiranty.—Route de France.												Remarks.
		Sunrise.				2 P.M.				Sunset.				
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	
	1	0·742	6·0	Calm	Overcast	0·742	11·2	S.W. strong	Cumuli	0.742	6·5	S.W.	Clear	
	2	0·745	5·0	N.	Clear	0·746	6·5	S.W.	Clear	0·747	3·8	Calm	Clear	
	3	0·745	3·4	N.	Clear	0·746	9·7	E.	Clear	0·747	5·9	N.E. strong	Cumuli	
	4	0·749	3·0	N.	Clear	0·751	9·0	S.W. strong	Clear	0·754	7·0	N.	Clear	
	5	0·758	2·4	N.W.	Clear	0·759	9·8	S.W.	Clear	0·759	7·3	S.W.	Clear	
Sunday	6	0·757	4·5	N.	Cumuli	0·757	11·5	S.E.	Clear	0·757	9·0	S E.	Clear	
	7	0·758	3·2	N.W.	Clear	0·758	12·3	S.E.	Clear	0·757	9·7	Calm	Cumuli	
	8	0·758	7·8	N.W.	Cumuli	0·758	15·0	S.W.	Cumuli	0·757	12·2	S.W.	Cloudy	
	9	0 756	9·0	N.W.	Foggy	0·757	13·5	E.	Cloudy	0·757	11·3	Calm	Cloudy	
	10	0·758	8·9	N.E.	Cumuli	0·757	14·0	E. strong	Clear	0·758	12·3	E. strong	Cumuli	
	11	0·756	5·6	N.W.	Clear	0·758	13·5	E. strong	Clear	0·759	12·0	Calm	Clear	
	12	0·759	5·8	N.W.	Clear	0·758	14·5	E. strong	Clear	0·758	12·3	E.	Cumuli	
Sunday	13	0·753	11·2	N.E. strong	Overcast	0·753	12·0	E. strong	Rain	0·753	9·5	Calm	Cumuli	
	14	0·752	5·8	N.W.	Clear	0·751	14·2	S.E.	Clear	0·751	11·8	S.E.	Clear	
	15	0·750	6·7	N.	Cumuli	0·748	5·2	N. strong	Rain	0·740	4·5	N. strong	Rain	
	16	0·740	7·4	N E.	Rain & thunder	0·738	6·0	N.E. stormy	Rain	0 736	5·5	S.E.	Cloudy	
	17	0·733	4·0	N.	Cumuli	0·741	11 0	S.W.	Cumuli	0·742	8·8	N.	Clear	
	18	0·745	5·0	N.	Cumuli	0·746	12 0	E.	Cloudy	0·746	7·4	N.W.	Rain	
	19	0·743	6 6	N.	Overcast	0·742	12·2	Calm	Overcast	0·740	10·6	N.	Drizzle	
Sunday	20	0·738	5·7	N.	Overcast	0·738	12·0	S.W.	Cumuli	0·738	8·9	Calm	Cumuli	
	21	0 741	6·5	N.E.	Overcast	0 741	11·5	S.W.	Hazy	0·741	8·5	Calm	Cloudy	
	22	0·741	6·2	Calm	Cloudy	0·741	10·8	E. strong	Cloudy	0·740	8·5	E. strong	Cloudy	
	23	0 737	4·5	Calm	Rain	0 737	9·0	N.	Overcast	0·737	7·6	Calm	Overcast	
	24	0 [illegible]	2·8	N.E.	Rain	0·739	9 0	N.	Overcast	0·741	7·3	S.E.	Cloudy	
	25	0 749	4 4	W.	Cloudy	0·747	11·5	S.W.	Cloudy	0·748	8·0	Calm	Clear	
	26	0· 53	4·5	N.W.	Cumuli	0·752	12·1	E. strong	Cloudy	0·753	8·6	E.	Cloudy	
Sunday	27	0 [illegible]	7·0	N.E.	Rain	0·744	11·4	S.W.	Cumuli	0·744	10·0	Calm	Overcast	
	28	0 [illegible]	6 2	N	Cumuli	0·743	14 0	S.W.	Cumuli	0·744	12 0	Calm	Overcast	
	29	0·750	7·2	N E.	Cumuli	0·752	15·1	S.W.	Cloudy	0·752	12·6	Calm	Cloudy	
	30	0 [illegible]	8 7	Calm	Cloudy	0·754	15·0	E. strong	Cumuli	0·754	12·2	E. strong	Cumuli	
	31	0 [illegible]	7·5	N.	Cumuli	0 753	15·5	S.W.	Drizzle & hazy	0·753	12·3	S.W.	Cumuli	
		23 [illegible]				23·207				23·204				
		0 [illegible]				0·748·6				0·749·5				

Meteorological Observations during April, 1853.

North of Maison A. Tiranty.—Route de France.

	Date.	Sunrise.				2 P.M.				Sunset.				Remarks.
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	
	1	0·753	7·0	N.W.	Overcast	0·752	15·8	S.W.	Overcast	0·751	13·0	Calm	Overcast	
	2	0·748	7·5	N.	Clear	0·749	15·7	S.W.	Clear	0·750	13 0	S.W.	Fair	
Sunday	3	0·753	10·6	N.E.	Cumuli	0·753	18·3	S E.	Clear	0·753	13 1	Calm	Clear	
	4	0·754	7·6	N.W.	Clear	0·753	16·5	S.W.	Clear	0·753	13·5	S.W.	Clear	
	5	0 735	8·5	N.	Clear	0·756	17·0	S.E.	Clear	0·756	14·5	Calm	Cumuli	
	6	0·754	8·5	N.	Clear	0·754	18·0	S.E.	Clear	0·754	15 5	S.E.	Hazy	
	7	0·755	11·5	N.	Hazy	0·755	17·7	S.E.	Clear	0·754	15·5	Calm	Hazy	
	8	0·754	13·7	Calm	Hazy	0·743	18·5	S.W. strong	Hazy	0·748	15·5	S.W. strong	Clear	
	9	0·744	12·0	N. strong	Clear	0·748	18·0	S.W. strong	Clear	0·748	15·2	E. strong	Cumuli	
Sunday	10	0·752	9·5	Calm	Clear	0·753	16·8	S.W. strong	Clear	0·753	12·8	S.W.	Cumuli	
	11	0·753	9·0	N.	Clear	0·753	16·7	S.W.	Clear	0·754	14·0	S.W.	Clear	
	12	0·764	7·0	N.	Clear	0·751	16·6	S.W.	Clear	0·749	13 0	Calm	Clear	
	13	0·745	7·7	Calm	Cumuli	0·743	16·6	S.E.	Overcast	0·741	13·6	S.E.	Clear	
	14	0·741	12·0	N.	Cloudy	0·742	16·5	N. strong	Rain	0·742	9·3	S.W.	Overcast	
	15	0·746	5·5	N.W.	Cumuli	0·748	13·3	S.	Clear	0·750	11·0	S.W. strong	Clear	
	16	0·751	6·5	N.W.	Cumuli	0·753	14·0	S.W.	Clear	0·753	12·2	Calm	Clear	
Sunday	17	0·756	7·8	N.W.	Clear	0·755	15·2	S.W.	Clear	0·756	13·5	Calm	Cumuli	
	18	0·755	7·2	N.E.	Clear	0·754	16·5	S.W.	Clear	0·753	14·0	S.W.	Cumuli	
	19	0·753	13·2	N.W.	Cloudy	0·754	17·7	S.W.	Cumuli	0·753	14·0	S.W.	Cumuli	
	20	0·751	12·0	Calm	Cloudy	0·748	17·2	E. strong	Cumuli	0·747	12 0	E. strong	Cloudy	
	21	0·746	9·9	Calm	Cumuli	0·746	18·5	E.	Cloudy	0·746	15·5	E.	Cumuli	
	22	0·746	10·7	Calm	Hazy	0·747	20·0	S.E.	Cumuli	0·747	16·0	S.E.	Clear	
	23	0·746	10·0	Calm	Cumuli	0·745	19·2	E. strong	Clear	0·745	16·5	E.	Clear	
Sunday	24	0·748	12·5	N.	Clear	0·751	18·5	E.	Clear	0·751	16·0	E.	Clear	
	25	0·751	9·0	N.	Cumuli	0·749	19·5	S.W. violent	Cumuli	0·747	14·5	S.W. violent	Overcast	
	26	0·745	12·0	Calm	Overcast	0·746	16·5	W. strong	Clear	0·746	15·0	W.	Clear	
	27	0·748	10·0	N.W. strong	Fine	0·749	17·4	E. strong	Clear	0·748	14 5	E.	Clear	
	28	0·751	12·8	N.E. strong	Overcast	0·751	18·0	S.E.	Cumuli	0·750	15·3	S.E.	Cumuli	
	29	0·748	13·4	N.E. strong	Overcast	0·741	14·0	E. violent	Rain	0·747	11·7	N.	Rain	
	30	0·745	11·1	N. strong	Cloudy	0·747	17·4	E. strong	Cumuli	0·745	15 5	E.	Cumuli	
		22·480				22·487				22·485				
		0·749·3				0·749·6				0·749·5				

Meteorological Observations during May, 1853.

North of Maison A. Tiranty.—Route de France.

	Date.	Sunrise.				2 P.M.				Sunset.				Remarks.
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	
Sunday	1	0·751	10·2	N.W.	Clear	0·753	19·2	S.E.	Clear	0·745	17·0	S.E.	Cumuli	
	2	0·754	13·0	Calm	Overcast	0·754	18·9	E.	Overcast	0·753	16·3	Calm	Overcast	
	3	0·752	13·5	Calm	Overcast	0·752	18·6	S E.	Hazy	0·753	16·5	S.W.	Overcast	
	4	0·753	13·4	N.	Rain	0·752	18·2	E. strong	Overcast	0·751	16·5	E. strong	Hazy	
	5	0 761	15·0	N.E.	Overcast	0·749	18·6	E. strong	Cumuli	0·747	16·1	E. strong	Cloudy	
	6	0·742	16·0	N.E., strong	Cloudy	0·742	14·0	N.E. strong	Rain	0·742	13·0	S.W.	Rain	
	7	0·741	12·1	S.W.	Overcast	0·742	17·6	S.W.	Cloudy	0·742	16·2	S.W.	Cloudy	
Sunday	8	0·743	11·1	N.	Overcast	0·746	18·7	S.W. violent	Cloudy	0·748	15·3	S.W. violent	Cloudy	
	9	0·750	11·0	Calm	Clear	0·752	19·7	Calm	Veiled	0·751	17·0	S.E.	Veiled	
	10	0·751	12 3	N.	Clear	0·751	20·0	E. strong	Veiled	0·752	18·0	E. strong	Hazy	
	11	0·751	15·6	E. strong	Overcast	0·751	20·2	Calm	Veiled	0·751	16·2	Calm	Rain	
	12	0·752	14·6	Calm	Cumuli	0·752	19·1	Calm	Hazy	0·753	16·8	Calm	Clear	
	13	0·754	14·6	Calm	Clear	0·752	20·5	S.E.	Cumuli	0·752	19·5	Calm	Cumuli	
	14	0·749	16·2	N.E. strong	Clear	0·749	23·4	E. strong	Hazy	0·749	19·5	Calm	Cumuli	
Sunday	15	0·750	15·0	Calm	Cumuli	0·750	21·0	E.	Cloudy	0·750	19·0	Calm	Cumuli	
	16	0·748	14·8	N.E.	Rain	0·748	20·2	S.W.	Thunder	0·748	16·5	Calm	Clear	
	17	0·748	12·7	N.W.	Thunder	0·748	18·0	S.W.	Rain	0·748	16·4	S.W.	Cumuli	
	18	0·747	14·5	W	Cumuli	0·748	18·5	S.W.	Clear	0·752	18·5	S.W.	Cumuli	
	19	0·740	12·6	N.	Clear	0·749	20·2	S.W.	Clear	0·749	19·0	S.W.	Clear	
	20	0·740	15·2	Calm	Cumuli	0·740	20·2	S.W.	Rain& thunder	0·750	17·5	S.W.	Clear	
	21	0·748	13·1	Calm	Clear	0·748	14·9	N.E. strong	Heavy rain	0·749	15·2	N.E.	Cloudy	
Sunday	22	0·749	11·2	Calm	Cumuli	0·751	18·6	N.	Cloudy	0·753	16·9	N.W.	Overcast	
	23	0 753	14·1	Calm	Rain	0·751	19·4	E. strong	Cloudy	0·752	18·0	N.E. strong	Cloudy	
	24	0 750	20·2	N.E. strong	Overcast	0 749	23·0	E. strong	Overcast	0·747	22·0	E. violent	Overcast	
	25	0·737	16 0	N.E. strong	Rain	0·748	18·5	E. strong	Rain	0·748	17·5	E.	Cloudy	
	26	0·749	13·5	Calm	Rain	0·750	20·0	S.W. strong	Cloudy	0·750	16·2	N.E.	Rain	
	27	0·751	16 5	N.E. strong	Cloudy	0·751	18·9	S.E strong	Overcast	0·750	16·2	S.E. strong	Cloudy	
	28	0·751	15·2	...	Rain	0·751	18 1	...	Cumuli	0·751	15·0	...	Cumuli	
Sunday	29	0·752	16·0	Calm	Clear	0·749	20·6	Calm	Cloudy	0·749	17·0	Calm	Cumuli	
	30	0·747	15·0	N.W.	Cumuli	0·747	19·7	E. strong	Cloudy	0·747	13·8	Calm	Rain, hail and thunder	
	31	0·746	13·0	N.	Cumuli	0·747	18·7	N.E.	Cloudy	0·748	16·3	N.E.	Rain	
		23·322				28·221				23·239				
		0·749·1				0 749·0				0·749·6				

Meteorological Observations during June, 1853.

North of Maison A. Tiranty.—Route de France.

	Date.	Sunrise.				2 P.M.				Sunset.				Remarks.
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	
	1	0·749	12·6	Calm	Cumuli	0·751	17·8	Calm	Nimbus&thun	0·751	17·7	Calm	Cloudy	
	2	0·751	13·2	N.	Clear	0·751	19·8	S.W.	Clear	0·749	17·9	Calm	Cumuli	
	3	0·748	13 5	N.	Cumuli	0·749	21·7	S.E.	Clear	0·748	18 7	Calm	Cumuli	
	4	0·747	16·0	N	Cumuli	0·747	21·5	S E.	Cloudy	0·747	19 8	N.E.	Cloudy	
Sunday	5	0·748	15·6	Calm	Cumuli	0·748	23·5	E.	Cumuli	0·748	21·2	Calm	Cumuli	
	6	0·749	18·3	N.E.	Cloudy	0·749	22·5	S.E.	Cloudy	0·749	20·5	Calm	Cumuli	
	7	0·749	18 5	Calm	Cloudy	0·749	22·5	E.	Rain& thunder	0·749	17·7	N. strong	Cloudy	
	8	0·750	16 6	N.W.	Rain	0·751	20·5	Calm	Cloudy	0·751	19·0	S.W.	Cloudy	
	9	0·752	17·7	N.W.	Cumuli	0·752	23·5	Calm	Clear	0·752	21 0	Calm	Cumuli	
	10	0·751	20·5	Calm	Clear	0·751	25·0	E.	Cumuli	0 751	22·3	Calm	Clear	
	11	0·750	20·0	Calm	Clear	0·750	23·7	N.E. strong	Cumuli	0·750	21 3	N.E.	Cloudy	
Sunday	12	0·748	17·5	Calm	Cloudy	0·748	22·0	S.W. strong	Cloudy	0·748	18·3	S.W. strong	Clear	
	13	0·748	15·5	N.W.	Clear	0·749	25·5	E.	Clear	0·749	19 5	Calm	Clear	
	14	0·750	16 5	Calm	Cumuli	0·751	20·5	S.W. strong	Cloudy	0·751	17·0	S.W.	Cloudy	
	15	0·751	14·9	S.W. strong	Cloudy	0·752	22·0	N.E. strong	Cumuli	0·753	18·5	E.	Cumuli	A tempest with
	16	0·752	15·6	N. strong	Clear	0·753	21·5	S.W.	Clear	0·752	19 2	Calm	Cloudy	hail.
	17	0·753	17·5	Calm	Clear	0·753	22·7	S.W.	Clear	0·752	20·5	Calm	Clear	
	18	0·752	17·2	Calm	Cloudy	0·753	23·0	S.E.	Clear	0·752	21·0	Calm	Cumuli	
Sunday	19	0·752	18·7	Calm	Hazy	0 750	22·0	Calm	Hazy	0·750	21·0	Calm	Hazy	
	20	0·748	18·3	Calm	Cloudy	0·746	23·8	S.W. strong	Cumuli	0·745	21 2	W. strong	Cumuli	
	21	0·744	16·8	W.	Clear	0·746	21·6	S.W. strong	Cumuli	0·745	18·2	W. strong	Cumuli	
	22	0·745	14·3	Calm	Clear	0·746	21·0	S.W. strong	Cumuli	0·745	18·2	W. strong	Cumuli	
	23	0·746	15·8	S.W.	Clear	0·746	19·9	S.W. strong	Clear	0·746	18 0	S.W. strong	Clear	
	24	0·748	14·0	Calm	Clear	0·749	21·2	S.W.	Clear	0·750	19·2	Calm	Clear	
	25	0·752	16·9	Calm	Clear	0·752	24·0	E.	Clear	0·753	20·5	Calm	Hazy	
Sunday	26	0·750	18·2	Calm	Clear	0·750	24·0	S.E.	Clear	0·749	20·5	N.E.	Clear	
	27	0·751	19·3	Calm	Clear	0·752	24·0	E.	Clear	0·753	21·2	E.	Clear	
	28	0·755	19·0	Calm	Clear	0·756	23·8	S E.	Hazy	0·753	21 6	Calm	Foggy	
	29	0·755	18·5	Calm	Clear	0·755	24·5	S.	Clear	0·754	21·5	Calm	Clear	
	30	0·752	18·8	Calm	Hazy	0·753	24·5	S.	Clear	0·752	21·5	S.	Clear	
		22·496				22·507				22·506				
		0·749·87				0·760 2				0·750·2				

Meteorological Observations during July, 1853.

North of Maison A Tiranty.—Route de France.

	Date.	Sunrise.				2 P.M.				Sunset.				Remarks.
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	
	1	0·751	19·0	Calm	Clear	0·751	24·7	S.W.	Cumuli	0·749	22·8	Calm	Hazy	
	2	0·748	19·4	N. strong	Clear	0·749	24·7	E. strong	Clear	0·751	22·5	S.W.	Clear	
Sunday	3	0·756	16·5	N.	Clear	0·756	24·0	S.E.	Clear	0·756	21·5	Calm	Cumuli	
	4	0·754	17·8	N.	Clear	0·756	24·3	S.W.	Clear	0·756	21·8	Calm	Cumuli	
	5	0·755	16 5	Calm	Clear	0·755	23·9	S.	Cumuli	0·755	24·6	S.	Clear	
	6	0 753	16·8	N.	Clear	0·755	23·5	S.	Clear	0·753	21·5	Calm	Clear	
	7	0·756	18·0	N.E.	Clear	0·757	24 5	S.	Clear	0·757	22·0	Calm	Clear	
	8	0·757	18·8	N.	Clear	0·757	25·2	S.E. strong	Clear	0·757	22·0	Calm	Clear	
	9	0 757	18·0	N.W.	Clear	0 757	25·5	S.	Clear	0·756	23·0	N.	Clear	
Sunday	10	0 755	18 0	N.	Clear	0 754	26·5	S.	Clear	0·753	24 0	S.	Clear	
	11	0·751	21·3	N.E.	Cumuli	0·751	25·6	E.	Clear	0·750	23·8	Calm	Clear	
	12	0·751	20 5	N.	Cumuli	0·752	27·0	S.	Clear	0 751	24 5	Calm	Clear	
	13	0·751	21 8	N.	Clear	0·751	27·7	E. strong	Clear	0·751	25·0	Calm	Cumuli	
	14	0·749	20·0	Calm	Cloudy	0·749	27 5	S.W. strong	Cloudy	0 748	24 5	S.W. strong	Cloudy	
	15	0·747	18·5	N.	Clear	0·748	24 0	S.W.	Cumuli	0·749	22·0	N.	Clear	
	16	0·752	16 4	N.	Clear	0 754	24·3	S.W.	Clear	0·754	21·2	Calm	Cumuli	
Sunday	17	0·756	16·8	N.	Clear	0·757	24·8	S.E.	Clear	0 756	22·5	Calm	Clear	
	18	0·756	18·7	N.W.	Clear	0·754	26 0	S.W.	Clear	0·751	23·7	Calm	Clear	
	19	0·754	20·7	N. strong	Cumuli	0·754	26·0	Calm	Clear	0 750	23·7	Calm	Clear	
	20	0·749	17·5	Calm	Clear	0·750	25·8	S.W.	Clear	0·750	23·0	Calm	Clear	
	21	0·751	19·0	Calm	Clear	0·752	26·2	S.E.	Clear	0·752	24·0	Calm	Clear	
	22	0·754	18·5	N.	Clear	0·754	27·2	S.W.	Cumuli	0·754	21·5	Calm	Hazy	
	23	0·752	20·4	Calm	Clear	0·752	24 8	S.	Clear	0·752	24·2	Calm	Clear	
Sunday	24	0·754	23·2	Calm	Cloudy	0·753	29·2	S.W.	Cumuli	0·752	25 0	S.W.	Clear	
	25	0 752	19·8	Calm	Clear	0·753	27·4	E.	Cumuli	0·753	24 5	Calm	Clear	
	26	0·752	20·4	Calm	Clear	0·752	26·8	S.	Clear	0·752	24·2	Calm	Clear	
	27	0·754	20·0	N.W.	Clear	0·753	27 3	S.	Clear	0·755	24 4	Calm	Clear	
	28	0·755	20 5	N.	Clear	0 753	28·2	S.	Clear	0·755	25 7	Calm	Clear	
	29	0·753	22·7	N.	Cloudy	0·751	28·7	S.	Rain & storm	0 752	26·0	Calm	Cumuli	
	30	0·751	20·1	N.W.	Clear	0·752	28 3	S.	Clear	0·752	25·8	Calm	Clear	
Sunday	31	0·751	19·8	N.E.	Clear	0·752	27·7	S.W.	Clear	0·752	25 3	Calm	Clear	
		23 343				23·344				23·334				
		0·753				0 753				0·752·6				

Meteorological Observations during August, 1853.

North of Maison A. Tiranty.—Route de France.

	Date.	Sunrise.				2 P.M.				Sunset.				Remarks.
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	
	1	0·753	20 7	Calm	Clear	0·753	28·6	S.E.	Clear	0·753	26·3	Calm	Clear	
	2	0·753	21·7	Calm	Clear	0·753	28·1	S.	Clear	0·753	26 5	Calm	Cumuli	
	3	0·753	20·7	N.E.	Veiled	0·753	28·6	E.	Cumuli	0·753	26 3	S.W.	Cumuli	
	4	0·753	21·5	Calm	Cumuli	0·751	28·0	S.W.	Clear	0·751	25·7	S.W.	Clear	
	5	0·750	21·7	Calm	Cumuli	0·750	28 9	S	Cumuli	0·749	25·8	E.	Clear	
	6	0·750	21·5	N.	Cumuli	0·751	28·0	E.	Stormy	0·751	24·0	N.E.	Stormy	
Sunday	7	0·752	19·8	N.	Cumuli	0·752	25·0	N.W.	Storm	0·752	22·0	N.W.	Clear	
	8	0·751	21·9	Calm	Clear	0·750	27·0	S.E.	Clear	0 750	24·6	Calm	Cumuli	
	9	0 750	21·7	N.E.	Cumuli	0·751	25·0	E. strong	Rain	0·751	21·6	S.E.	Cloudy	
	10	0·752	17·1	N.	Clear	0·753	25·0	S.E.	Clear	0·753	21·6	Calm	Cloudy	
	11	0·753	18 5	N.E.	Clear	0·751	27·0	S.E. strong	Clear	0·750	24·5	E. strong	Clear	
	12	0·751	18 8	Calm	Clear	0·752	27·3	S.	Clear	0·753	24·8	Calm	Clear	
	13	0 754	18·7	N.	Clear	0·755	27·0	N.E.	Clear	0·755	21·7	Calm	Clear	
Sunday	14	0·754	19·6	N.	Cumuli	0·753	26·7	S. strong	Cumuli	0·752	24 5	E.	Cloudy	
	15	0·753	16·5	N.	Clear	0·754	25·2	S E.	Clear	0·755	23·0	S.W.	Cloudy	
	16	0·750	19·8	N.	Cumuli	0·750	26·5	S.E. strong	Clear	0·750	24·0	S.W. strong	Cloudy	
	17	0·747	19·4	Calm	Cloudy	0 746	24·5	S.W. strong	Cloudy	0·746	22 8	S.W.	Clear	
	18	0·748	17 0	N.W.	Clear	0·749	25·5	S.E.	Clear	0·751	23 0	Calm	Clear	
	19	0·743	16·5	N.	Clear	0·744	25·2	S.E.	Clear	0·745	23 0	S W.	Clear	
	20	0 756	17·4	N.	Clear	0 757	24·5	S.W.	Clear	0·757	22·7	Calm	Clear	
Sunday	21	0·756	18·3	Calm	Veiled	0·757	25 0	N.W.	Clear	0·757	23·5	None	Clear	
	22	0 755	19·6	N.	Clear	0·758	26·2	S.W.	Clear	0·753	24·8	Calm	Clear	
	23	0·752	20·2	N.	Clear	0·751	26 8	Calm	Clear	0·750	25·3	Calm	Clear	
	24	0·750	18 5	N.E.	Clear	0·751	26·8	S.E.	Cloudy	0·751	25·4	S.W.	Clear	
	25	0 750	20·2	N.W. strong	Clear	0·750	26·6	S.E. strong	Clear	0·749	24 6	Calm	Clear	
	26	0·750	18·3	N.	Clear	0·750	26·3	S.W.	Cumuli	0·750	26·8	Calm	Clear	
	27	0·748	19·8	N.W.	Clear	0·747	26·2	S.W. strong	Clear	0·747	24·4	S.W.	Clear	
Sunday	28	0·750	16·5	N.E.	Clear	0·751	25 2	S.W.	Storm	0·751	23 5	Calm	Cumuli	
	29	0·755	18·5	N.W.	Clear	0·753	25·2	W.	Clear	0·753	23·8	Calm	Clear	
	30	0·752	18·7	N.	Clear	0·753	25 0	E.	Clear	0·753	26·2	Calm	Clear	
	31	0·753	19·3	N.	Cloudy	0·753	25·4	Calm	Cloudy	0·753	24·0	Calm	Cloudy	
		23·296				23 297				23·297				
		751 5				751·5				751·5				

Meteorological Observations during September, 1853.

	Date.	North of Maison A. Tiranty.—Route de France.												Remarks.
		Sunrise.				2 P.M.				Sunset.				
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	
	1	0·753	18·6	N.E.	Clear	0·753	25·2	E.	Clear	0 753	24·0	Calm	Cumuli	
	2	0·753	21·0	N.W.	Cloudy	0 751	26·3	Calm	Cloudy	0 750	21·9	Calm	Cloudy	
	3	0 749	20·5	N.W.	Clear	0·748	32·7	S.W. strong	Cloudy	0·748	27·8	Calm	Cumuli	Remarkable
Sunday	4	0·749	19·7	N.	Cumuli	0·750	26·5	S.W.	Overcast	0·751	22 9	N. strong	Overcast	heat.
	5	0·750	19·6	N.	Cloudy	0 760	23·7	S.W.	Cloudy	0·750	21·2	Calm	Cloudy	
	6	0·746	15·9	N.	Rain	0·746	19·8	Calm	Cloudy	0·746	21·2	Calm	Cumuli	
	7	0 748	12·4	N.	Cumuli	0·747	22·0	S.W. strong	Clear	0·746	21·2	Calm	Clear	
	8	0·750	14·8	N.	Clear	0·750	22 6	S.W.	Cumuli	0·750	20·2	Calm	Clear	
	9	0·747	14 0	N.	Clear	0 748	23·0	E. strong	Cumuli	0·749	20·5	Calm	Clear	
	10	0·750	14·8	N.	Clear	0 750	22·8	S.W.	Cumuli	0·750	20·2	Calm	Clear	
Sunday	11	0 746	15 0	N.E.	Cumuli	0·747	21 0	N.E. strong	Cumuli	0·749	19·4	Calm	Cloudy	
	12	0·751	19·5	Calm	Clear	0·751	23·0	Calm	Clear	0·752	20·6	N.	Cumuli	
	13	0·750	14·8	N.	Clear	0·750	22·6	S.W.	Cumuli	0·750	20·2	Calm	Clear	
	14	0·753	15·7	N.W.	Clear	9·752	22·8	S.	Clear	0·752	20 7	Calm	Cumuli	
	15	0·753	15 9	N.	Cumuli	0 753	23·3	S.	Cumuli	0·753	21·2	Calm	Rain	
	16	0·752	18·0	N.E.	Rain	0 751	22·8	N.E.	Cloudy	0·750	21·0	N.E.	Cloudy	
	17	0 751	15·8	N.	Clear	0·751	22·5	S.E.	Clear	0 751	19·8	Calm	Clear	
Sunday	18	0·750	15·2	Calm	Cumuli	0·751	21·9	S.W.	Clear	0·752	20 0	Calm	Clear	
	19	0·751	15 8	N.	Clear	0·751	22·9	S.E.	Clear	0·751	19·8	Calm	Clear	
	20	0 753	15·0	N.E.	Clear	0·753	23·0	S.W.	Clear	0·753	20·0	N.E.	Clear	
•	21	0·752	15·0	N.	Clear	0·753	22 9	S.	Clear	0·753	20·4	Calm	Clear	
	22	0·751	15·8	N.	Clear	0·751	22·5	S.E.	Clear	0·751	19·8	Calm	Clear	
	23	0·752	16·7	N.E.	Cloudy	0·751	22·2	S.E.	Cumuli	0·751	19·5	Calm	Clear	
	24	0·750	16·0	N.	Clear	0·751	23·4	S.	Tempest	0·751	20 5	Calm	Cumuli	
Sunday	25	0 747	16·7	N.	Cloudy	0·747	21·9	S.E.	Cumuli	0·747	20·0	Calm	Cumuli	
	26	0·746	16·0	N.W.	Cumuli	0·742	22·7	S.W. strong	Clear	0·744	20·5	E. strong	Clear	
	27	0 750	14·7	N.W.	Clear	0·751	21·5	S.	Clear	0·752	20·3	Calm	Clear	
	28	0·756	14·4	N.W.	Cumuli	0·758	20·5	S.E.	Cumuli	0·758	19 0	Calm	Cumuli	
	29	0·758	14 4	N.W.	Clear	0·757	20·7	S.E.	Clear	0·757	19·0	Calm	Cumuli	
	30	0·764	16·5	N.	Cloudy	0 753	20·8	S.	Clear	0·758	19·0	Calm	Clear	
		22·516				22·517				22·523				
		0·750·5				0·750·5				0·750·5				
		5				5				5				
		0·755·5				0 755·5				0·755·5				

Meteorological Observations during October, 1853.

North of Maison A. Tiranty.—Route de France.

	Date.	Sunrise.				2 P.M.				Sunset.				Remarks.
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	
	1	0·752	17·0	N.W.	Cloudy	0·752	21·5	Calm	Cloudy	0·752	20·0	Calm	Cloudy	
Sunday	2	0·752	16·0	N.W.	Clear	0 752	21·8	Calm	Clear	0 752	20·8	N.	Clear	
	3	0·752	17·0	N.W.	Cloudy	0·753	21·5	Calm	Cloudy	0 753	20·0	S.W.	Clear	
	4	0·754	12·0	N.	Clear	0·755	20·5	S.W.	Clear	0 755	19·0	S.W.	Clear	
	5	0·755	11·2	N.W.	Clear	0·753	17·0	S.W.	Cloudy	0·753	14·9	Calm	Hazy	
	6	0·747	13·6	S. strong	Rain	0·746	16·2	N.W.	Rain, thunder	0·744	12·0	Calm	Rain	
	7	0·747	9·4	N.E.	Clear	0·748	17·2	S.W. strong	Cumuli	0 749	16·0	S.W.	Cumuli	
	8	0 749	13·2	N.	Cumuli	0 747	14 8	N.E. strong	Rain	0 747	15·2	N.E. strong	Cloudy	
Sunday	9	0·749	9·0	N.	Cumuli	0·751	16·0	S.W. strong	Cumuli	0·751	14·5	S.W.	Rain	
	10	0 746	13·8	N.E. strong	Rain	0·745	15 0	N.	Rain	0·746	12·0	Calm	Cloudy	
	11	0 746	13·8	N.E. strong	Rain	0·745	15·0	N.	Rain	0·746	12·5	Calm	Cloudy	
	12	0·750	12·7	N.	Cloudy	0·750	15·7	Calm	Rain	0·750	14·5	Calm	Rain, thunder	
	13	0·751	13·8	N.	Cloudy	0·753	17·0	Calm	Rain	0·752	16 5	N.E.	Cloudy	
	14	0·751	12·5	N.E.	Clear	0·751	18·0	S.W. strong	Clear	0·751	17·3	Calm	Cumuli	
	15	0·751	16 2	N.	Rain	0·751	20·5	Calm	Cumuli	0·751	19·0	Calm	Cumuli	
Sunday	16	0·750	15·9	N.E.	Cloudy	0·747	16·8	N. strong	Cloudy	0·747	15·8	Calm	Cumuli	
	17	0·745	12·7	N.	Cumuli	0·745	17·6	S.W.	Clear	0·745	16·4	S.W. strong	Cumuli	
	18	0·744	11·0	N.	Rain	0·742	16 2	S.W.	Cumuli	0·743	14·6	N.	Cirri	
	19	0·746	8·3	N.E.	Clear	0·746	16·7	Calm	Cloudy	0·745	15·5	Calm	Cloudy	
	20	0·745	15·2	W.	Rain	0·747	18·5	W.	Clear	0 748	17·0	W.	Clear	
	21	0·751	13·4	N.	Cumuli	0·756	17·6	E.	Clear	0·757	16·3	Calm	Clear	
	22	0·757	10·7	N.	Clear	0·757	18·0	E.	Clear	0·757	17·0	N E.	Clear	
Sunday	23	0 759	14·7	N.	Cloudy	0·759	19·0	Calm	Overcast	0·759	18·8	Calm	Overcast	
	24	0 759	15·0	N.W.	Cloudy	0·760	19·0	S.W.	Cumuli	0 759	17·0	Calm	Cumuli	
	25	0·759	14·0	Calm	Cloudy	0·759	18·4	E.	Clear	0·759	17·0	E.	Clear	
	26	0·758	12·5	N.W.	Clear	0 757	17·0	E.	Clear	0 757	15·3	E.	Clear	
	27	0·757	18·8	N.	Cumuli	0·757	19·5	E. strong	Cloudy	0 757	18·8	E.	Cloudy	
	28	0·757	15·8	N.E.	Rain	0·757	17·0	Calm	Rain	0·756	15·0	Calm	Rain	
	29	0 755	14 2	N.	Rain	0·754	15·6	Calm	Rain	0·754	14·0	E.	Cloudy	
Sunday	30	0·754	13·0	N.W.	Cumuli	0·753	17·2	Calm	Cumuli	0·754	16·0	Calm	Cloudy	
	31	0·755	13·5	Calm	Cumuli	0·755	17·5	Calm	Cumuli	0 756	15·7	Calm	Cloudy	
		23·308				23 300				23·304				
		0·751·7				0·751·6				0·751·74				

Meteorological Observations during November, 1853.

North of Maison A Tiranty.—Route de France.

	Date.	Sunrise.				2 P.M.				Sunset.				Remarks.
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	
	1	0·757	12·8	N.E.	Cumuli	0·756	17·2	E. strong	Drizzle	0·756	15·9	E.	Cloudy	
	2	0·755	15·4	E.	Cloudy	0·755	16·3	E. strong	Hazy	0·756	17·2	E.	Hazy	
	3	0·757	15·0	Calm	Cloudy	0·756	19·0	E. strong	Cloudy	0·756	17·0	E.	Cumuli	
	4	0·756	11·8	N.	Cumuli	0·755	18·8	E.	Cumuli	0·755	17·2	Calm	Cumuli	
	5	0·754	13·8	N.	Cloudy	0·753	18·2	E.	Cloudy	0·753	16·4	Calm	Hazy	
Sunday	6	0·755	14·0	N.	Rain	0·756	18·4	Calm	Clear	0·757	16·6	N.W.	Cumuli	
	7	0·758	13·9	Calm	Hazy	0·758	15·2	Calm	Rain	0·759	14·7	N.	Hazy	
	8	0·759	13·5	N.	Cloudy	0·757	16·2	Calm	Hazy and rain	0·756	15·5	Calm	Hazy	
	9	0·755	12·9	N.	Cumuli	0·755	18·5	Calm	Cumuli	0·755	16·2	Calm	Cumuli	
	10	0·758	11·0	N.	Clear	0·758	17·6	Calm	Clear	0·757	14·3	N.	Cumuli	
	11	0·758	9·8	N.W.	Cumuli	0·754	17·8	N.E. strong	Cumuli	0·755	14·6	Calm	Cumuli	
	12	0·757	9·7	N.	Clear	0·756	16·3	N.E. strong	Clear	0·756	13·0	N.E.	Cumuli	
Sunday	13	0·754	11·5	N.	Drizzle	0·753	14·0	Calm	Drizzle	0·752	13 0	Calm	Overcast	Fog.
	14	0·748	12·0	N.E.	Hazy	0·748	13·6	Calm	Hazy	0·748	13·5	Calm	Overcast	
	15	0·746	12·2	Calm	Overcast	0·744	15·0	N. strong	Rain	0·742	14·5	N. strong	Rain	
	16	0 749	11·8	N.	Hazy	0·741	14·0	Calm	Rain	0·741	12·8	Calm	Rain	
	17	0·744	8·2	Calm	Clear	0·745	13·8	N.	Clear	0·746	11·5	W.	Clear	
	18	0·748	8·6	N.W.	Clear	0·748	14·5	Calm	Cumuli	0·748	12·0	Calm	Cumuli	
	19	0·751	8·5	N.	Cumuli	0·751	15·0	S.	Cumuli	0·752	13·5	Calm	Cumuli	
Sunday	20	0 752	7·8	N.W.	Clear	0·752	14·5	S.W.	Cumuli	0·752	11·5	S.W.	Cloudy	
	21	0 751	10·5	Calm	Cloudy	0·751	14·2	E.	Cloudy	0·752	12·0	Calm	Cloudy	
	22	0 753	7 5	N.W.	Clear	0·753	13·6	E.	Cumuli	0·753	10·5	Calm	Cloudy	
	23	0·754	8·5	N.W.	Cumuli	0·755	13·0	S.	Cumuli	0·755	9·8	Calm	Cumuli	
	24	0·757	6 0	N.W.	Cumuli	0 756	12·6	S.W.	Cumuli	0·756	9·0	Calm	Cumuli	
	25	0 753	7·4	N.E.	Overcast	0·753	9·8	N.	Hazy	0·753	8·6	Calm	Cloudy	
	26	0·754	6 8	N.	Cumuli	0·753	11·6	S.W.	Cloudy	0·752	7·6	Calm	Cloudy	
Sunday	27	0 750	2·0	N. strong	Rain	0·750	4·9	N. strong	Overcast	0·751	3 2	N. strong	Cloudy	Snowfall.
	28	0 753	6·0	N.	Cumuli	0·758	10·6	N.	Clear	0·758	8·0	N.	Clear	
	29	0·756	6·2	N.	Clear	0 757	11·3	Calm	Clear	0·757	8 8	N.W.	Clear	
	30	0 758	4·5	N.	Clear	0·757	11·2	Calm	Clear	0 757	9·5	N.	Clear	
		22 601				22·589				22·591				
		0·753.				0 752 9				0·753				

Meteorological Observations during December, 1853.

North of Maison A Tiranty.—Route de France.

	Date.	Sunrise.				2 P.M.				Sunset.				Remarks.
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	
	1	0·756	5·0	N.	Clear	0·755	11·8	S.E.	Clear	0·755	9·7	Calm	Cloudy	
	2	0·756	5·6	N.	Cumuli	0·756	11·9	E.	Cumuli	0·756	9·6	E.	Cumuli	
	3	0·756	6·5	N.	Clear	0·756	12·2	S.W.	Clear	0·756	10·8	Calm	Clear	
Sunday	4	0·757	7·2	N.	Cumuli	0·757	12·5	N.	Cumuli	0 756	11·6	N.	Cloudy	
	5	0·756	7·2	N.	Cloudy	0 756	11·6	S.E.	Cumuli	0·756	10·5	Calm	Clear	
	6	0·756	6·3	N.	Cumuli	0·755	11·8	Calm	Clear	0·755	9·5	Calm	Clear	
	7	0·755	5·4	N.	Cumuli	0·754	12·0	E.	Clear	0·754	8 8	Calm	Clear	
	8	0·753	5·5	N.	Clear	0 752	12·2	S.W.	Clear	0·751	8·9	Calm	Clear	
	9	0·750	7·8	N.	Cloudy	0·750	11·8	Calm	Cloudy	0·750	10·0	Calm	Overcast	
	10	0·753	7·7	S.W.	Rain	0 752	9 8	Calm	Overcast	0·752	8 0	Calm	Cumuli	
Sunday	11	0·755	6·0	N.	Overcast	0·755	9·5	Calm	Overcast	0·756	8·0	Calm	Cumuli	
	12	0·758	4·7	E.	Cumuli	0·757	10·6	N.	Cumuli	0·757	8·8	Calm	Cumuli	
	13	0·753	8·6	E. strong	Overcast	0·752	12 4	E. strong	Cumuli	0·751	11·3	E. strong	Cloudy	
	14	0·740	8·5	E. strong	Rain	0·739	10 0	E. strong	Overcast	0·739	7·8	E.	Rain	
	15	0·737	6·0	Calm	Rain	0·737	7·8	N.	Rain	0·737	7·0	N.	Overcast	
	16	0·741	3·8	N.	Clear	0 741	10·8	S.W.	Cumuli	0·742	9·2	Calm	Cumuli	
	17	0·746	3·6	N.	Clear	0·746	10·4	W.	Clear	0·746	7·2	Calm	Clear	
Sunday	18	0 746	3 7	N.	Clear	0·746	10·2	W.	Clear	0·746	7·0	S.W.	Clear	
	19	0·747	6·4	N.E.	Rain	0·747	7·5	N.W.	Rain	0·747	7·0	N.W.	Rain	
	20	0·748	7·2	N.	Overcast	0·749	10·8	N.E.	Rain and fog	0·749	8·7	N.E.	Rain	
	21	0·749	6·7	N.	Cloudy	0·746	9·0	N.	Rain	0·746	8·8	N.	Overcast	
	22	0·744	4·3	N.	Clear	0·741	10·5	S.W.	Clear	0·745	7·3	Calm	Cumuli	
	23	0 745	5 3	N.	Cumuli	0·744	10·7	S.W.	Clear	0 744	6·7	Calm	Clear	
	24	0·746	6·3	N.	Cloudy	0·747	10·5	N.	Cumuli	0·748	7·3	N.	Cumuli	
Sunday	25	0·752	4·7	N.W.	Cumuli	0·753	8·0	N.	Cloudy	0·753	6·5	N.	Cloudy	
	26	0·752	3·0	N.	Cloudy	0·751	11·0	E. strong	Cloudy	0 750	9 6	N.	Cloudy	
	27	0·748	3·0	N.	Clear	0·747	9·5	S.W.	Clear	0·745	6 5	Calm	Clear	
	28	0·741	2·6	N.	Clear	0·742	5·8	N.E. strong	Clear	0·743	2·8	N.W. strong	Clear	
	29	0·746	−2 0	N.	Clear	0·747	+1·5	N.E.	Hail	0·743	+0·5	Calm	Clear	Ther. minus.
	30	0·752	−0·3	N.	Cumuli	0·752	+4 3	N.	Cumuli	0·752	+2·9	N.	Cumuli	
	31	0·748	−1·3	N.W.	Clear	0·748	+4 8	N.	Clear	0·749	+2·7	N.	Cumuli	Ther. minus −2·4 at Ecole de Commerce.
		23·242				23·230				23·228				
		0·749.74				0·749·35				0·749·29				

Meteorological Observations during January, 1854.

North of Maison A Tiranty.—Route de France.

	Date.	Sunrise.				2 P.M.				Sunset.				Minimum Ecole de Commerce.	Remarks.
		Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.	Bar.	Ther.	Wind.	Sky.		
	1	0·748	1 3	N.	Clear	0·748	5·6	W. strong.	Clear	0 745	5·6	W. strong	Cumuli	+0·7	
	2	0·747	+0·9	N.W.	Clear	0·747	+6·5	N.W. strong.	Clear	0·746	+3·5	Calm	Clear	−0·1	
	3	0 748	0·0	N.	Cumuli	0·747	+3·8	N.	Hail	0·747	3·7	N.	Overcast	−2·1	
	4	0·742	+8·0	E. strong	Cloudy	0·740	10·2	E. strong	Rain	0·738	7 7	E. strong	Rain	+3 2	
	5	0 739	5·2	N.	Cloudy	0·741	10·7	S.	Clear	0 742	8 8	S.W. strong	Clear	5·0	
	6	0·744	7·0	N.	Cloudy	0·744	10·6	S.	Cloudy	0·745	8·0	S.	Clear	2·9	
	7	0·749	5·8	N.	Clear	0·751	11·0	S.W.	Clear	0·752	8·2	S.W.	Clear	2·5	
Sunday	8	0 749	7·2	N.W.	Rain	0·748	9·1	S.W.	Rain	0·748	9·8	N.W.	Rain	5·7	
	9	0·746	7 5	N.	Rain	0·744	11·0	E.	Overcast	0·745	9 9	E.	Cloudy	6·4	
	10	0 743	4·0	N.W.	Clear	0·743	9·0	W.	Clear	0·744	6·2	N.W.	Cumuli	3·8	
	11	0 743	4·0	N.W.	Clear	0·743	9·0	W.	Clear	0·744	6·2	N.W.	Cumuli	5·2	
	12	0·738	7·6	N.W.	Cloudy	0·748	12·2	N.W.	Clear	0·747	10·0	Calm	Clear	6·1	
	13	0·748	6 2	N.	Clear	0·748	11·3	S.	Clear	0·748	9·0	N.	Clear	3·8	
	14	0·750	5·2	N.W.	Clear	0·751	12·0	S.W.	Clear	0·752	10·2	N.W.	Cumuli	3 3	
Sunday	15	0·755	6·0	N.	Cumuli	0·755	11·8	E. strong	Cloudy	0·756	11·3	E. strong	Cloudy	5·2	
	16	0·756	9·8	N.W.	Cloudy	0·757	12·6	E.	Cloudy	0·757	11·5	Calm	Cloudy	8·3	
	17	0·760	8·9	N.W.	Clear	0·760	14·8	S	Clear	0·760	11·8	N.	Clear	7·4	
	18	0·760	6·5	N.E.	Clear	0·761	11·3	S.	Clear	0 762	10·7	Calm	Clear	4·7	
	19	0·755	9·5	N.E. strong	Cloudy	0·756	18·0	N.E. strong	Cloudy	0·755	16·8	N.E. strong	Cloudy	7·4	Great rise of
	20	0·760	11·6	N.W.	Cumuli	0·759	15·7	E. strong	Clear	0 760	13·8	Calm	Cumuli	10·9	thermometer.
	21	0·763	7·0	N.E.	Clear	0·763	16·0	S.W.	Clear	0·762	11·0	Calm	Clear	5:8	
Sunday	22	0 761	6·5	N.	Clear	0·760	15·7	S.W.	Clear	0·759	11·5	Calm	Clear	5 4	
	23	0·757	6·8	N.W.	Clear	0·757	14·6	S.E.	Clear	0·758	11·8	E. strong	Clear	4·8	
	24	0·759	4·2	N.	Clear	0·759	11·0	E.	Cloudy	0·760	9·0	Calm	Overcast	4·1	
	25	0 759	7·0	Calm	Overcast	0·761	12·0	S.W.	Cloudy	0·763	7·0	N W.	Clear	6·5	
	26	0·767	2·8	N.W.	Clear	0·767	10·0	S.W.	Clear	0·767	7·6	N.W.	Clear	2·1	
	27	0·768	7·0	N.W.	Clear	0 766	14·3	E. strong	Clear	0·766	11·4	E. strong	Clear	8·9	
	28	0·767	5·7	N.E.	Cloudy	0·766	11·8	S.W.	Clear	0·765	9·0	W.	Cumuli	5·2	
Sunday	29	0·762	4·3	N.	Cloudy	0·761	11·8	Calm	Cloudy	0·759	9·8	Calm	Clear	3·8	
	30	0·757	4 4	N.W.	Clear	0·757	11·9	S.E.	Clear	0·757	9·8	Calm	Clear	3·7	
	31	0 757	7 0	N.	Clear	0·757	15·7	S.	Cumuli	0·757	12 9	Calm	Clear	4·2	
		23365				23365				23366					
		0 753·71				0 753·71				3·753·74					

Nice. State of the Sky as observed.

	Number of Observations.	Clear.	Overcast.	Hazy.	Rain.	Fog.	Stormy.	Thunder and Hail or Snow.
January ..	130	79	29	..	20	..	..	2
February .	116	68	25	..	18	..	..	5
March ...	128	70	36	..	21	..	..	1
April	122	93	24	..	3	..	..	2
May	133	55	41	..	32	..	..	5
June.....	129	75	27	11	11	1	..	4
July	132	119	5	2	2	..	3	1
August ...	128	98	15	1	4	1	8	1
September	125	85	24	..	12	..	1	3
October ..	130	68	30	..	27	..	..	4
November.	114	57	32	..	25	..	..	..
December..	98	63	21	..	11	1	1	1
Total...	1,485	930	309	14	166	3	13	26
Per Centage....	..	62·7	21·0	0·9	11·2	0·2	1.0	2·0

Nice. State of the Sky by Day.

	Clear.	Overcast.	Rain.	Hazy.	Windy.
January ..	19	4	8	..	11
February .	18	2	8	..	11
March ...	14	4	13	..	12
April	25	3	2	..	11
May	9	2	20*	..	14
June.....	17	2	8	3	9
July	26	3	2	..	4
August ...	22	4	4	1	8
September	20	3	6	1	7
October ..	14	4	13	..	9
November.	14	4	12	..	8
December..	19	5	7	..	4
Total...	217	40	103	5	108
Per Centage....	59·4	10·9	28·2	1·4	30·0

* Rainy days, 5 in May in 1849.
„ 7 „ 1850.
„ 9 „ 1851.
„ 8 „ 1852.

Genoa Royal University, lat. 44·25. Long. east of Paris, 35·24, from 1833 to 1842, 10 years. Height above the sea 47 met. 18mm. By Professor Garibaldi.

	Mean Temperature. 9. A.M.	12. Noon.	3. P.M.	9. P.M.	Bar. Mean. 9. A.M.	12. Noon.	3. P.M.	9. P.M.	Mean Mthly.	Barometer. Max.	Min.
January ..	7·20	8·29	8·67	7·08	758·94	758.59	758·11	758·62	758·52	..	..
February .	8·27	9·62	10·20	8·29	57·68	57·41	56·81	57·38	57·24	769·61	..
March ...	10·48	11·82	12·69	10·25	56·63	56·39	55·71	56·42	56·17	..	..
April	13·11	14·40	15·15	12·67	54·38	54·25	53·61	54·27	54·01	..	..
May	17·91	18·93	19·77	17·21	56·40	56·38	55·85	56·27	56·13	..	..
June.....	22·33	23·22	24·12	21·33	57·39	57·33	56·88	57·03	57·14	..	..
July	24·27	25·27	26·15	23·39	56·78	56·67	56·32	56·39	56·55	..	..
August ...	24·22	25·31	26·57	23·31	56·88	56·74	56·23	56·50	56·55	..	..
September	20·73	21·85	22·87	19·32	56·72	56·63	56·10	56·58	56·41	..	..
October ..	16·73	18·13	18·92	16·39	57·12	57·03	56·39	56·86	56·76	..	..
November.	11·80	12·89	13·24	11·69	55·80	55·65	55·13	55·69	55·46	..	741·90
December..	9·22	10·34	10·68	9·22	58·86	58·60	58·11	58·65	58·48	..	..
Winter ..	8 23	9·45	9·85	8·23	758·49	758·20	757·67	58·22	58·08	..	..
Spring ...	13·83	15·05	15·87	13·38	55·80	55·67	55·07	55·65	55·44	..	..
Summer..	23·61	24·60	25·55	22·68	57·02	56·91	56·48	56·64	56·76	..	..
Autumn..	16·42	17·62	18·34	16·00	56·55	56·43	55·87	56·38	56·21	..	..
Mean..	15·52	16·68	17·40	15·07	756·97	756·81	756·27	756·72	756·62	..	..
Year...	61·10 Fahr.				29·788 English						

Ther. Max. 32·5 in July and August. Min. — 3·1 in January.

Feb. 1834, Max. 775·66 } Dif. 48·38
„ 1838, Min. 727·28 }

The atmospheric tide quite marked the mean descent being from 9 A.M. to 3 P.M. 0mm·692, and mean ascent from 3 P.M. to 9 P.M. 0mm 449. Genoa, remarkable for rain, averaging 13 days a month and high temperature.

	N.		N.E.		E.		S.E.		S.		S.W.		W.		N.W.		Calm.	Numbers of Observations.	Thermometer Means. Centigrade.					Barometer. Four Daily Observations.
	Moderate.	Strong.	Moderate.	Strong.	Moderate.	Strong.	Moderate.	Strong.	Moderate.	Strong.	Moderate.	Strong.	Moderate.	Strong.	Moderate.	Strong.			Sunrise.	2 P.M.	Sunset.	10 P.M.	Mean of Month.	Means of Month.
January ...	39	1	1	5	6	5	7	..	1	..	4	4	2	2	23	5	19	124	7·15	11·95	9·73	8·23	9·27	0·7579
February ..	25	..	4	5	4	3	4	..	1	..	6	6	8	10	20	2	12	110	3·85	9·01	5·83	4·74	5·86	0·7473
March	22	1	12	4	4	10	7	..	..	..	16	2	4	..	14	..	28	124	5·69	11·60	9·15	6·46	8·22	0·7535
April	20	2	7	1	8	6	11	..	1	..	17	8	1	3	12	1	22	120	9·80	16·71	14·03	11·43	13·01	0·7543
May	9	..	14	6	2	17	6	1	..	..	14	3	9	..	8	..	28	117	14·10	19·19	16·84	14·88	16·23	4·7545
June	7	1	6	1	10	..	6	..	3	..	7	9	3	4	8	..	50	115	16·85	22·28	19·81	18·45	19·35	0·7550
July	23	2	9	..	2	3	4	..	12	..	13	2	..	..	16	..	36	122	19·10	26·05	23·57	21·51	22·56	0·7580
August	25	..	11	..	5	4	5	..	4	..	14	6	1	..	15	..	30	120	19·37	26·42	24·23	22·46	23·12	.0·7566
September..	20	1	19	2	1	5	4	..	6	..	9	3	4	..	13	..	32	118	16·29	22·85	20·50	18·12	19·44	0·7560
October ...	24	1	12	3	8	1	..	..	..	1	10	4	7	..	15	..	32	118	13·16	17·42	16·19	14·29	15·26	0·7569
November..	25	4	9	2	8	4	..	..	2	..	4	..	5	1	12	..	34	110	10·02	14·59	12·59	10·90	11·77	0·7581
December..	38	1	4	2	3	5	2	..	..	..	8	..	2	..	4	1	22	92	5·07	9·72	7·78	6·02	7·14	0·7544
Total	277	14	108	31	61	63	56	1	30	1	122	47	46	20	159	9	345	1,390	..	..	..	..	..	..
Per Centage	20·9		10·0		8·9		4·1		2·2		12·2		4·7		12·1		24·9	..	..	..	..	..	..	..

As a complement to the above details, it may be mentioned that a great snow-storm took place in England on the 3rd and 4th January, 1854, the thermometer in Hyde Park during the winter having fallen to 17° below freezing. The barometer in the house of the Marine Society, in Hyde Park, on the 5th January, when the thaw commenced, stood at 28°·80, and simultaneously at Nice at 0·741 m. = 29°·173; so that the diminution of pressure extended over several degrees of latitude and longitude. On the 4th January, at Nice, at night, there was a tremendous storm of lightning, thunder, and rain, the thermometer was not below 3°·8 Fahr. below the freezing point from the 2nd January; but the sensation of cold was so great, that, with a wood-fire in the drawing-room, a great coat was desirable, and a lady wrapped herself up in a thick woollen shawl.

The preceding analysis of the meteorology of Nice and Genoa, and by inference that of the Maritime Alps, presents some features common to a tropical climate, *id est*, comparatively limited range of atmospheric pressure, small ranges of the thermometer, whether daily, monthly, or annual, no excess of heat in the summer, no great diminution of temperature in the winter, an unclouded sky for weeks together, violent winds and tempests rare, serenity of the atmosphere being a characteristic, and added to all, perennial verdure. There would thus seem to be a combination of physical circumstances highly conducive in the people to freedom from formidable diseases, and more especially those affecting the respiratory organs. Such a view, reasonable and natural as it appears, would involve a grave and dangerous error if the following medical returns be trustworthy guides; and of this there should not be question, as they are official documents, called for by the government of the country. It were to be wished to have had these returns of a more recent date; but they are the latest printed by the government. The return of the deaths in the hospital of St. Rocco at Nice, for 1853, was supplied to me through the good offices of the civil governor, Signor Marmara.

I first notice a nosological return (Prospetto nosographico) of the deaths in the hospital of St. Rocco at Nice from 1828 to 1837, amounting to 1,016. The greatest number of deaths is attributed to inflammation of the respiratory organs; namely, 25·1 per cent. of the total deaths—86 succumbed to bronchitis, males 44, and 42 females; pleurisy, 138—males 82, and females 56; besides these, the deaths from phthisis were 29– males 19, and females 10; total 253. The nearest approach to these numbers is 12·2 per cent. from gastric inflammation, 124 deaths—males 57, and females 67. And in one instance only, under all other heads of disease, does the number amount to 30 deaths: namely, rheumatic fever, males 12, females 18, giving only 2·9 per cent. of the total deaths. In the hospital of St. Croce, at Nice, for the same period, there is the same characteristic of diseases of the respiratory organs being more fatal than any other diseases. The total number of deaths was 235, and of these, 66, or 28·1 per cent., including 16 of phthisis, were from diseases of the lungs: the greatest number, under any other head, being gastric inflammation, 13, or 5·1 per cent. only of the total deaths. Arranged by months, the deaths diminish from March and increase again in August. In the return from the hospital

of St. Rocco for 1853, the mortality from chest affections far exceed the above per-centages. The whole number of deaths from all causes was 38, of which number no less than 31, or 81·6 per cent., died from diseases of the respiratory organs; consumption 9, bronchitis 14, and pneumonia 8; and yet there had been 110 cases of fever with only 2 deaths, and 68 of rheumatism with 5 deaths. The total number of chest cases treated was 106 out of 284 patients admitted, or 39·4 per cent.

Return of Patients received into the Hospital of St. Rocco at Nice, in 1853, together with the Deaths and Cures.

Months.	Fever.	Rheumatism.	Consumption.	Bronchitis.	Pneumonia.
January	6	10	2	9	3
February	3	1	....	21	3
March	5	7	1	8	3
April	9	6	1	4	2
May	8	2	2	1	2
June	5	4	....	2	3
July	4	4	3	1	....
August	19	3	2	3	1
September	14	3	....	4	2
October	10	6	1	2	1
November	12	4	2	4	2
December	19	8	2	5	4
Total	110	68	16	64	26
Deaths	2	5	9	14	8
Cures	108	63	7	90	18

Note.—Fevers include intermittent 49, ephemeral 10, tinoche gastric fever 40, bilious fever 2, &c. Under rheumatism 20, rheumatic fever 19, &c. Amongst the consumptive cases, 6 only were tuberculous. The 7 cases of consumption, under the head "cures," mean that an amelioration had taken place. Under bronchitis 42 were bronchitis, and 22 influenza. Under pneumonia are included 10 pulmonical catarrh, 8 pleurisy, and 8 pneumonia.

The above return of 284 patients does not include the surgical cases, amounting to 819, of which 110 died, or 13·4 per cent., and 709 were cured.

The official return of the patients received in the two civil hospitals of Nice: Santa Croce and San Rocco, for 10 years, from 1828 to 1837, comprised 7,924 patients with acute diseases, of whom 1,251 died as stated in the Nosological Return, or 15·7 per cent., and 6,598 were discharged, or 83·3 per cent.

The return from the military hospitals at Nice, from 1834 to 1843, divide the cases into inflammation, inflammatory affections of the chest, bronchitis, and pleurisy.

Patients Treated in the Hospitals at Nice, from 1828 *to* 1837 *Inclusive.*

Population of the Province of Nice, 1838:—Males, 56,148; Females, 56,285.

Population of Town.	Hospital.	Diseases.	Sexes.	Remaining, 1st January, 1828.	Received in 10 Years.	Total.	Discharged.	Dead.	Remaining 31st December, 1837.	Number of Discharged to 100 Treated.	Number of Deaths to 100 Treated.
33,811	Santa Cruce	Acute...	Males	9	767	776	628	139	9	81·88	18·12
			Females	11	411	422	316	93	10	76·70	23·30
				20	1,178	1,198	944	235	19	80·07	19·93
	S. Rocco	Acute...	Males	19	4,368	4,387	3,822	535	30	87·72	12·28
			Females	25	2,314	2,339	1,832	481	26	79·20	20·80
				44	6,682	6,726	5,654	1,016	56	84·77	15·23

Cretins.—Having observed several swelled throats, and some real goitres, at Nice, I looked over the government returns, and found that a good deal of cretinism existed in Piedmont and Savoy. In December, 1845, in a population of 2,558,349 souls, there were 18,462 people with simple goitres. Cretins, without goitre, 2,089, with goitre, 3,909, and not stated 962; total 6,960. Of these, 2,185 had mere animal instincts, 3,531 with very small intellectual faculties, 196 almost without any, and 1,048 not specified. Of this number of poor creatures, 2,483 were born from healthy (sani) fathers, and 2,285 from healthy mothers; 961 from goitre fathers, 1,267 from goitre mothers; 49 from cretin fathers, 41 from cretin mothers; 106 from goitred cretins, 66 from goitred cretin mothers; and 438 fathers and 405 mothers not specified. The per-centage of cretins to the whole population was 0·27, running as high, however, as 2·78 in Aosta (78,110 inhabitants), and 2·26 in Moriana, in Savoy (62,344 inhabitants). Although I saw some goitres in Nice, and several cases of swelled throats, I did not see a cretin; and the return gives for the province only 11 cretins, or 0·009 per cent. of the population, 112,428.

It is to be regretted that the official printed statistics of the Sardinian states do not come down in any branch of the subject to later date than 1848, and the generality of the returns range between 1828 and 1837; and as considerable ameliorations have taken place since the earlier date in the political and social condition of the people, former facts might possibly now appear with a new face; but such returns as are printed, from the evident labour bestowed upon their compilation, appear to me to be worthy of confidence.

Cavalry Hospital at Nice, from 1834 *to* 1843, *inclusive.*

	Medical Cases.					
	Remaining 1st Jan., 1834.	Received in 10 Years.	Total Treated.	Discharged.	Dead.	Remaining 30th Dec., 1843.
Regimental Hospital of Cavalry	12	4,837	4,849	4,754	89	6

	Surgical Cases.					
	Remaining 1st Jan., 1834.	Received in 10 Years.	Total Treated.	Discharged.	Dead.	Remaining 30th Dec., 1843.
Regimental Hospital of Cavalry	5	2,050	2,055	2,042	9	4

	Venereal.					
	Remaining 1st Jan., 1834.	Received in 10 Years.	Total Treated.	Discharged.	Dead.	Remaining 30th Dec., 1843.
Regimental Hospital of Cavalry	3	490	493	490	1	2

	Cutaneous Scabbiosi.					
	Remaining 30th Jan., 1834.	Received in 10 Years.	Total Treated.	Discharged.	Dead.	Remaining 30th Dec., 1843.
Regimental Hospital of Cavalry	7	869	876	875	....	1

	Total.					
	Remaining 30th Jan., 1834.	Received in 10 Years.	Total Treated.	Discharged.	Dead.	Remaining 30th Dec., 1843.
Regimental Hospital of Cavalry	27	8,246	8,273	8,161	99	13

Military Hospital Returns for the Division of Nice, from 1834 *to* 1843 *Inclusive.*

Year.	Medical.						Surgical.						Venereal.						Skin Diseases.						Total.						Troops in Garrison.
	Remaining.	Received.	Total Treated.	Discharged.	Dead.	Remaining.	Remaining.	Received.	Total Treated.	Discharged.	Dead.	Remaining.	Remaining.	Received.	Total Treated.	Discharged.	Dead.	Remaining.	Remaining.	Received.	Total Treated.	Discharged.	Dead.	Remaining.	Remaining.	Received.	Total Treated.	Discharged.	Dead.	Remaining.	
1834	35	1262	1297	1261	22	14	20	421	441	427	3	11	8	88	96	93	..	3	1	9	10	10	..	..	64	1780	1844	1791	25	28	Brigade of Pieminte—a battery of artillery, veterans and invalids
1835	14	957	971	921	31	19	11	339	350	331	..	19	3	90	93	88	..	5	..	19	19	18	..	1	28	1405	1433	1358	31	44	
1836	19	775	794	770	7	17	19	340	359	345	2	12	5	92	97	95	..	2	1	35	36	36	..	..	44	1242	1286	1246	9	31	Brigade of Cosale, ditto, ditto
1837	17	951	968	928	24	16	12	529	541	519	..	22	2	26	28	23	..	5	..	31	31	29	..	2	31	1537	1568	1499	24	45	
1838	16	922	938	910	20	8	22	554	576	561	4	11	5	35	40	38	..	2	2	26	28	27	..	1	45	1543	1590	1544	24	22	Brigade of Savoy, ditto, ditto
1839	8	778	786	741	32	13	11	289	300	281	2	17	2	15	17	17	..	..	1	9	10	10	..	..	22	1087	1109	1045	34	30	
1840	13	691	704	663	15	26	17	306	323	308	3	12	..	39	39	37	..	2	..	5	5	4	..	1	30	1041	1071	1012	18	41	Brigade of Savona, ditto, ditto
1841	26	825	851	815	19	17	12	566	578	552	..	26	2	39	41	35	..	6	1	2	3	3	..	..	41	1432	1473	1405	19	49	
1842	17	782	799	769	13	17	26	477	503	489	1	13	6	30	36	36	..	..	..	..	..	..	..	..	49	1289	1338	1294	14	30	Brigade of the Queen, ditto, ditto
1843	17	960	977	947	21	9	13	333	346	341	1	4	..	50	50	48	..	2	..	23	23	23	..	..	30	1366	1396	1359	22	15	
Total	35	8903	8938	8726	204	9	20	4154	4174	4154	16	4	8	504	512	510	..	2	1	159	160	160	..	..	04	13720	13784	13549	220	15	

In the infantry hospital the cases were arranged as medical, surgical, venereal, and skin diseases: in the two latter there were not any deaths; in the medical 204, and surgical 15. The total number of patients treated were, medical 8,938, with 204 deaths; surgical 4,174, with 16 deaths; venereal 512, no deaths. Skin diseases, 160, and no deaths. The per-centage of deaths upon the medical cases was 2·28; upon the surgical cases not quite four tenths per cent. The very small proportion (3·7 per cent.) of venereal cases to the total number treated is, I think, an unusual feature in a military hospital.

In the cavalry hospital at Nice, from 1834 to 1843, 4,849 medical cases were received, with 89 deaths, or 1·8 per cent.; 2,055 surgical cases, with 9 deaths, or 0·45 per cent.; 493 venereal cases, and 1 death; and 876 skin cases, and no deaths. The venereal cases were about 6 per cent. of the whole cases, considerably exceeding the proportion in the infantry.

Foundlings.—The total number of foundlings received in ten years into the foundling hospital at Nice was 340 boys and 289 girls, namely, 189 boys legitimate, and 147 girls; and 153 boys illegitimate, and 142 girls; total, 629. And the deaths in ten years were 137, namely, 48 boys legitimate, and 38 girls; and 26 boys illegitimate, and 25 girls. The chief mortality is between the ages of one and two years, increasing from two months up to that age; and after the age of four the deaths are rare. In the original return the deaths are arranged by months; and the greatest mortality occurred in June and August—11 males, 9 females, = 20; and 10 males, 12 females, = 22. The smallest number of deaths occurred in December—1 male, 4 females, = 5. The greatest mortality with respect to age was between the seventh month and two years old. One hundred and fifty-four legitimate children were restored to their parents; but only 18 illegitimate. In the province of Nice, in ten years, the illegitimate boys were only 1·05 per cent. of the population, and girls 1·09 per cent.; both sexes 2·14 per cent., a ratio it were well some other European towns could boast of.

Mortality of Foundlings at Nice in the Ten Years 1828 *to* 1837.

	Total Deaths in 10 Years.				Total Deaths in 10 Years.		
	Males.	Fem.	Total.		Males.	Fem.	Total.
Abortions	....	....	....	5 years	1	1	2
Dead born	....	....	....	6 ,, ...	1	....	1
8 days	2	2	4	7 ,, ...	2	2	4
9 to 15 days	2	1	3	8 ,, ...	....	....	....
16 days to 1 month	1	2	3	9 ,, ...	1	....	1
2 to 3 months ...	11	6	17	10 ,, ...	1	....	1
4 to 6 ,, ...	6	9	15	11 ,, ...	....	....	....
7 to 12 ,, ...	9	13	22	12 ,, ...	....	....	....
1 to 2 years.....	28	17	45	Beyond 12 yrs.	....	....	....
3 years.....	4	7	11				
4 ,, ...	5	3	8	Totals	74	63	137

That the grave mortality prevalent at Nice in diseases of the

respiratory organs is characteristic of other localities in Piedmont is unmistakeably shown by the hospital returns from Genoa and Turin. At Genoa, in the hospital of Pommatone, in ten years, from 1828 to 1837, 77,590 patients (27,989 males, and 49,601 females) were treated, and 11,683 died. There were 1,756 deaths from inflammation of the chest, including bronchitis and pleurisy (764 males, and 992 females); consumption 521 (233 males, and 288 females); pulmonal catarrh 961 (393 males, and 568 females); and asthma 389 (163 males, and 226 females), making a total of deaths from diseases of the respiratory organs of 3,627 in 11,683, or 31·04 per cent. of the total deaths. The next greatest mortality was 1,297 from inflammation of the bowels (528 males, 769 females), or 11·1 per cent. only of the total deaths; rheumatic fever 1,003 (391 males, 612 females), or 8·6 per cent.; and the next highest mortality was from inflammation of the brain 937 (399 males, 538 females), or 8·02 per cent. At Turin, in the hospital of St. John the Baptist, on the hot plains of Piedmont, but within sight of the snowy ranges of Monte Rosa and the Great St. Bernard, the mortality is even greater from diseases of the chest than at Genoa. The total patients treated was 49,362 (males 28,484, females 20,874); and the deaths in ten years were 4,865. Those from acute and chronic bronchitis and pleurisy were 1,561 (males 888, females 673), with 299 from phthisis, making a total of 1,860, or 38·2 per cent. of the total deaths. The other hospitals in Turin give nearly the same fatal results. Comparing these results with the deaths in London, in 1853, from diseases of the respiratory organs, the Register-General shows that the total deaths were 61,202, and of these, 10,831 were from diseases of the respiratory organs, and 7,502 from phthisis or consumption; total 18,333, or 31·5 per cent. of the total deaths; while zymotic diseases give 13,552, or 22·1 per cent. It would seem to be a dangerous error, therefore, to fly to Nice, or Piedmont, to cure diseases of the lungs.

A few words may be given in conclusion before parting with this branch of the subject, on the per-centage mortality in the Sardinian civil hospitals, as compared with that in other countries. In the government returns a list is given of the principal civil hospitals in Piedmont, amounting to fifty, the mean mortality in which, from 1828 to 1837, was 11·71 to 100 patients treated, exclusive of those remaining under treatment. In twenty-nine hospitals the mortality was below the mean; and in twenty-one above it. The mortality ranged from 4·87 per cent., in the great hospital of Mauriziano at Turin, to 74·46 per cent., in the hospital of San Louis Gonzaga* at Turin, the next highest being in the hospital of Cottabengo at Turin, 47·50 per cent., and at Acqui, 43·80 per cent.; and in eleven hospitals the mortality ranged from 15·13 per cent. to 19·93 per cent. In the hospital at St. Rocco, at Nice, the mortality was 15·23 per cent.; and in that of Sta. Croce, also at Nice, 19·93 per cent. This high rate of mortality amongst patients would appear to characterize Italy, with the exception of Rome. In the Hôtel Dieu, at Paris,

* The reason of the great mortality in the hospital of St. Louis Gonzaga, at Turin, is, that the patients received are chiefly consumptive or suffer from cancer, marasmus, or [idropo-cronico] dropsy. The same is said of Cottabengo.

from 1798 to 1828, the mean annual mortality was 13·53 per cent.; St. George's, in London, 1815 to 1827 = 11·50 per cent.; the Imperial Hospital, St. Petersburg, 1796 to 1816 = 25·06 per cent.; Vienna, civil hospitals, 1823 to 1835 = 16·0 per cent.; Florence, St. Mary, 1835 to 1838 = 19·60 per cent.; Edinburgh, Royal Infirmary, 1808 to 1817 = 7·69 per cent.; Glasgow, civil hospital, 1808 to 1827 = 11 per cent.

A return, however, of the Register-General of the deaths in the hospitals of London, for the year 1851, gives a more favourable view of the success of our medical treatment; St. Thomas's hospital being 5·46 per cent., and St. George's 9·62 per cent.; the military hospitals not exceeding 2·66 per cent. (See next page.)

The following budget of the civil hospital at Nice shows the receipts and disbursements, and affords a standard of comparison with our own.

Civil Hospital Budget for 1854.

Receipts.	Fr.	Expenses.	Fr.
Rent of houses, buildings, &c.....	9,089	Contributions Ordinaires.....	1,500
Fermages des biens ruraux	1,832	Repairs.....	200
Rents from the public debt.....	8,356	Annuities perpetual	50
Interest on capital lent	22,214	,, temporary	4,300
Produit des journées de priserer payées.....	9,700	Legacies for funeral and religious services	2,358
Fines transferred to hospital	565	Cost of external administration	1,943
Fractions	7	Salaries of hospital staff	7,070
	51,763	Cost of worship 50, alms to the poor sick 3,060	3,110
Balance in Treasury....	39,422	Keep of sick and servants:— Bread 8,000, meat 7,000, vegetables 4,400, wood 1,200, wine 5,000, petty expenses 1,000	26,600
		Medicines	2,500
		Linen washing	2,000
		Casual expenses	100
			51,732
		Extraordinary expenses:—	
		Buildings 800	
		Replacement of capital 26,000	
		Extraordinary expenses 6,000	
			32,800
		Balance in Treasury	6,653
	91,185		91,185

HOSPITALS, ASYLUMS, AND WORKHOUSES OF LONDON, 1851.

Number of Cases Treated; Inmates Resident, or Population; Deaths; Term of Residence; Deaths to 100 *Cases; and Annual Deaths to* 100 *of the Population.*

No. of District.		Total Cases Discharged, Cured, or otherwise, or Dead, 1851.	Average Term of Residence in Institution.	Average Number of Inmates in Institution.	Deaths 1851.	Deaths to 100 Cases.	Deaths to 100 Beds assumed to be continually occupied.
			days.				
	Total	138,247	92	34,766	8,109	5·91	23·50
	Workhouses	52,441	149	21,435	4,919	9·38	22·95
	General Hospitals ...	29,857	34	2,762	2,266	7.59	82·04
	Hospitals for Special Diseases	2,212	42	254	254	11·48	100·00
	Lying-in Hospitals ...	817	25	57	7	·86	12·28
			years.				
	Lunatic Asylums	2,233	1·68	3,748	394	17·64	10·51
			days.				
	Military and Naval Hospitals	9,495	22	584	228	2·40	89·04
	Hospitals and Asylums for Foreigners	556	46	70	31	5·58	44·29
	Prisons	40,036	53	5,857	70	·17	1·20
	General Hospitals.						
3	St. George.....	2,050	38	275	255	9·62	92·73
4	Westminster	1,505	31	131	119	7·60	90·84
5	Charing Cross	1,195	31	100	79	6·61	79·00
7	Middlesex	2,327	40	255	173	7 43	67·84
9	University College ...	1,105	28	86	116	10·50	134·88
9	Royal Free	894	23	57	40	4·47	70·18
13	King's College	1,213	32	106	120	9·89	113·21
18	St. Bartholomew.....	5,950	32	522	444	7·46	85·06
22	London.....	4,071	28	308	258	6·34	83·77
27	Guy's.....	4,530	38	476	424	9·36	89·26
27	St. Thomas	4,357	38	449	238	5·46	53·01
	Hospitals for Special Diseases.						
10	Small pox	682	22	41	102	14·96	218·78
10	Fever.....	739	38	76	84	11·37	110·53
1	Lock	359	48	47	..	..	..
1	Consumption..... ...	432	76	90	68	15·74	75·56
	Military and Naval Hospitals.						
4	Grenadier Guards....	1,319	20	74	32	2·43	43·24
4	Coldstream Guards...	932	18	47	20	2·15	42·55
4	Scots Fusilier Guards.	700	30	65	21	2·66	32·31
35	Royal Ordnance	4,222	22	260	47	1·11	18·08
36	Dreadnought Ship....	2,232	28	139	108	4·84	77·70
	Lunatic Asylums, &c.		years.				
16	St. Luke.....	211	·91	193	20	9·48	10·36
20	Hoxton House (Miles')	190	1·90	361	29	15·26	8·03
21	Bethnal House (Warburton's)	216	2·48	535	56	25·93	10·47
25	Grove Hall (Bow)....	345	·86	298	32	9·28	10·74
29	Bethlem.....	335	1·17	391	30	8·96	7·67
32	Surrey New County ..	289	2·87	830	121	41·87	14·58
33	Peckham House	303	1·27	384	32	10·56	8·33
33	Camberwell House...	202	1·56	316	42	20·79	13·29
	Other small Asylums..	142	3·11	441	32	22·54	7·26
	Number of Columns..	1	2	3	4	5	6

Population of Nice.

Census of 1823, 27,000; 1838, 33,811; of 1848, 36,804 = 8·8 per cent.

	1838.		1848.		Increase per Cent.		Decrease per Cent.	
	Males.	Fem.	Males.	Fem.	Males.	Fem.	Males.	Fem.
Under 5 years of age	1,852	1,775	2,267	2,320	22·2	30·7	....	....
5 to 10 ,,	1,766	1,729	2,033	2,040	14·5	12·2	....	....
10 to 20 ,,	3,452	3,644	3,857	4,361	11·7	19·6	....	....
20 to 30 ,,	2,683	3,283	2,843	3,488	6·0	6·2	....	....
30 to 40 ,,	2,283	2,571	2,167	2,520	....	....	5·0	1·9
40 to 50 ,,	1,638	1,885	1,956	2,155	13·3	14·3	....	....
50 to 60 ,,	1,244	1,393	1,226	1,325	....	....	1·4	4·9
60 to 70 ,,	799	889	683	711	....	....	14·5	20·0
70 to 80 ,,	338	304	372	362	10·0	19·0	....	....
80 to 90 ,,	121	142	43	57	....	....	64·4	59·8
90 to 100 ,,	5	14	8	11	60	....	....	21·4
Above 100 ,,	1	....	....	1	....	100	100	....

	In 1838.		In 1838.
Males Unmarried	10,148	Females Unmarried ...	10,318
,, Married	5,517	,, Married	5,655
Widowers	517	Widows	1,656

	Houses.	Families.	Men.	Women.	Total.
Distribution in 1838 :—					
At the Port	36	329	635	747	1,382
Suburb St. Jean Baptist	63	254	583	539	422
Croix de Marbre.....	124	281	566	612	1,178
Beaumates	115	264	566	561	1,127
Country houses	1,438	1,903	5,148	4,880	10,028
In town	1,236	4,530	8,684	10,290	18,974
					33,811

Medical men: Physicians, 29; surgeons, 27; apothecaries, 25; midwives, 16. Hospitals, 3; sick, 105; poor lodged men, 67; women, 165; houseless, 20 men, 20 women. In prison, 52 men, 17 women.

Population of Nice.—In 1823, the population of Nice amounted to 27,000; and there were only two first-class hotels—the York and Les Etrangers. In 1838, the population was 33,811; and in 1848, it had become 36,804, the increase in the decennial period being 8·8 per cent. Looking, however, to the increase or decrease in these ten years to the ages of the inhabitants, for quinquennial and decennial periods, there is reason to suppose that the increase is chiefly owing to the influx of labourers, mechanics, and others, with their wives and children, consequent upon the extension of the town by house-building and public works; for, in comparing the population returns for 1838 and 1848, the increase in the population stops at the age of 30 in both sexes, with two exceptional periods, at 40 years to 50, and 70 to 80; and the old people of both sexes have diminished, from 50 to 60, males 1·9 per cent., females 4·9 per cent.; 60 years to 70, males 14·5 per cent., females 20 per cent.; from 80 to 90,

males 64·4 per cent., females 59·8 per cent. There is also a diminution between the ages of 30 to 40, males 5 per cent., females 1·9 per cent.; but this may be accidental, as the increase between 70 and 80, of males, 10 per cent., and females 19 per cent., may be equally accidental. The chief increase is in children under 5; of boys, 22·2 per cent., and of girls 30·7 per cent.; the next greatest male increase is of boys from 5 to 10, of 14·5 per cent.; but the girls between 10 and 20 have increased 19·6 per cent. At 20 to 30, the male increase is only 6 per cent., and the female 6·2 per cent. In 1838, the females exceeded the males by 1,447; in 1848, by 1,894 In 1838, there were 517 widowers, and 1,656 widows; and there were 3,070 bachelors above 20 years of age, and 3,170 spinsters above 20. The return for 1848 does not give these details. There were only 322 Jews, and 214 Protestants, in the population of 1838; the rest were all Catholics. The preceding details are independent of the floating or casual population in 1838, consisting of the garrison 1,950, students 375, fishermen 161, labourers 1,719, families of strangers 212 = 1,272 souls, sailors 168; total 5,245. The casual population of 1848 I did not learn.

The *marriages*, *births*, and *deaths*, in the town of Nice and in the province of Nice, are given in the government returns for each year for 1828 to 1837 inclusive; but as the population is only given for 1838, namely, 33,811, the per-centages of the several years would only give approximations to the truth scarcely worth the trouble of calculating; I shall confine myself, therefore, to the marriages, births, and deaths of the nearest year to the census 1837. The births in Nice were 1,206, the average of the preceding years being about 1,100. This would give only one birth to every 4·6 pairs of the 11,172 married people in 1838, and one birth to 28 souls. The total number of births in 10 years was 10,968. In the province of Nice, the births in 1837 were 3,796, which, on a population of 112,433, would give 1 birth to 29·6 souls!! The total number of births in the province of Nice, in ten years, was 36,982. The marriages in 1837 were 267 at Nice, or 1 to 122·9 of the population; but in 1836 the marriages were 355, or 1 to 95·2 souls. The number of marriages in the province of Nice in 1837 was 800, which gives 1 marriage to 140·5 souls only; but the preceding year the marriages were 985, which gives 1 to 114·1 souls: the diminution in one case, and the excess on the other, may both be attributed to accidental circumstances. The deaths in 1837, in Nice, were 1,153, or 1 to 29·3 souls, or 3·4 per cent. This is a formidable rate of mortality compared with England, or even the worst English town. If we take the total number of deaths in ten years, 9,163, and allow each of these years to have had the maximum population of 1838, namely, 33,811, which we know cannot have been the case, the deaths would be 2·71 per cent., or 1 to 36·9 souls. In the province of Nice the deaths were 3,024 in 1837, or 1 in 37·1 souls, or 2·69 per cent. Pursuing the same calculation as for the term of assumed maximum population for each of the ten years, the result is 2·49 per cent., or 1 in 40·5 souls, being slightly in favour of the country districts over the town, as might be expected. But as such calculations are mere assumptions, they have not any statistical value, and only serve to strengthen our

confidence in the deductions from the single year 1837. The government returns for ten years give 1 death to 24·97 souls, or 4 per cent.; but whether by taking the means of the population and means of death for the ten years, I have not learnt. The deaths to the births in ten years are represented to be, males, 74·51 per cent., females 77·38 per cent.; both 75·90 per cent. The actual increase of the births over the deaths, in the province in ten years, was 8,913, giving less than 1 per cent. annual increase by births.

	Population, 1838.	Births.									
		1828.	1829.	1830.	1831	1832.	1833.	1834.	1835.	1836.	1837.	Total.
Commune of Nizza	33811	1010	1108	1048	1070	1065	1095	1169	1095	1102	1206	10968
Province of Nizza	112433	3429	3760	3675	3755	3983	3591	3955	3827	3716	3796	36982

	Marriages.										
	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.	1836.	1837.	Total.
Commune of Nizza	255	224	278	236	252	304	232	211	355	267	2614
Province of Nizza	834	715	841	762	757	916	767	741	985	800	8116

	Deaths.										
	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.	1836.	1837.	Total.
Commune of Nizza	956	833	775	730	843	1027	835	1222	789	1153	9163
Province of Nizza	2670	2938	2457	2548	2529	2959	2906	3364	2674	3024	28069

In London, the mean of seven years, 1847 to 1853, the deaths were 2,489 per cent., or 1 to 40 of the population, varying slightly in the different districts; from 2·254, or 1 in 44, in the north districts to 2,670, or 1 in 37, south of the Thames.

Having discussed the population of Nice, it remains to state by what machinery it is governed, and what are its institutions and social conditions.

Intendance.—The civil government of the province and town of Nice is under the appellation of "Intendance-General," consisting of an "Intendente," corresponding to a Préfet, I believe, in France; a "sub (or deputy) Intendente," two councillors, and a chief secretary.

Municipal Council.—The municipal administration consists of a syndic or mayor, four deputy-syndics, and a secretary, all elected annually by the rate-payers. The duties of the municipal council

will best be shown by the following Agenda of the 7th March, 1853. "Entrepôt de la Douane," which embraces the purchase of the government arsenal for a customs warehouse, "Legacy of St. Agathe," "Petition of the Widow Tiranty," Embankment of the Arcane," "The Cemetery of St. Barthélemy," "Choice or selection of the *kind* of Spectacle" (performances at the theatre), "Project for laying out the Suburbs," "The Waters of St. Mauren," "Grant of Land for a Salle d'Asile" (house of refuge), "Decision respecting the proposal of a transverse Royal Road," "Modification of the expenses of the Hospital of St. Roch," "Regulations of the rural Police," petitions, and other matters. This showed a tolerable amount of business for one day's deliberation. The municipal council has forty members, besides the syndics. The eight seniors go out annually, but are re-eligible. On the 17th July, about 400 votes were given; the highest of the eight candidates had 311 votes, and the lowest 127. There is also a "divisional," as well as "provincial," council for the county of Nice.

Police.—On the 24th April, 1853, the Sardinian government approved of regulations for the municipal police of Nice. These regulations are divided into chapters, and arranged under the following heads:—

Cap. I.—Municipal police; commissary; guards; agents; public works; town architect.

Cap. II.—Town arrangements; arrondissements; streets; commissaries of divisions.

Cap. III.—Professions; hotel-keepers; restaurateurs; innkeepers; pot-houses; wine sellers, pastry-cooks, cafés, &c.; blacksmiths, wheelwrights, and trades generally; labourers and servants.

Cap. IV.—Public safety and salubrity; fastening doors; balls; masques; carnival amusements; baths; burial of dead animals; cloacinæ; watering streets; muzzling dogs; inspector of markets; markets to distinguish those for the sale of herbs, fruits, champignons, orange-flowers, oil, grapes, firewood, from the bakers and vermicelli-makers; the meat-market: animals to be killed only in the abattoir; the different meats to be lettered and ticketed with prices; weights and measures, &c.

Cap. V. regulates the safe passage of the streets by horses, mules, &c.; projecting roofs, façades of houses, shop-windows; games; public carriages, carts, &c., blocking-up streets; pavements; people working in the streets; projections from magazines; contracts for street sweeping, &c.

Cap. VII. regulates the octroi or barrier-tax.

Altogether there are seventy-four octavo pages of regulations, embracing, apparently, every possible question of internal management; and many of these regulations would afford very useful hints to our own municipalities.

Theatres.—As far as these regulations affect the theatre, the following details will illustrate their bearing. On the 1st Sptember the syndic or mayor, on the part of the municipality, put up to public auction the first, second, and third tiers of boxes. The first two boxes were put up at 400 francs (16*l.*) for the season, commencing the 15th October, and ending the 15th April; and the 3rd tier was

put up at 250 francs—two boxes upon each tier being reserved for the authorities, and the whole theatre being subject to be twice claimed for balls or concerts for the benefit of the poor. The biddings ranged from 500 to 663 francs, for each box of the two lower tiers; and one stage-box brought 850 francs (34*l.*); and the sum realized for these two tiers was 8,839 francs. A family may secure a box at the theatre for the season, where operas alternate with plays, for a sum ranging from 20*l.* to 34*l.*; but an entrance of 1 franc, 20 centimes (one shilling) is exacted from each visitor. The municipality make an annual arrangement with a director of the theatre, who collects his own company.

Gaming Banks.—In connexion with the municipality regulating public amusement, and to show up the enormous profits of a licensed gaming-table, like those of Baden Baden, Homberg, and other places, it may not only be in place, but possibly useful, to state that, on the 19th September, 1853, the municipality of Nice accepted an offer by Mr. Schneider that, in consideration of a license for fifteen years to keep a gaming-table, in connexion with a casino, he would pay to the municipality annually, for the first five years, 30,000 francs, for the next five years 35,000 francs, and for the last five years 40,000 francs; that he would build a suspension bridge passable for carriages, without toll, over the mouth of the Paglion, and establish hot baths, the building and furniture of which should not be less in value than 100,000 francs; and that, at the expiration of his term, he would hand over the same to the town; and that he would submit to such regulations as the municipal council might pass from time to time. Fortunately for the reputation, and probably ultimate well-being of the town, the confirmation of this agreement rested with the Minister of the Interior at Turin, and he negatived it. This refusal caused very angry comments in the newspapers at Nice, and ineffectual efforts were made to overcome the minister's objections. The result was the opening the casino (assembly and reading-rooms) without the gaming-table.

Gas.—A more beneficial exercise of the powers of the municipality took place by carrying out an agreement with the Central Gas Company to light the town. Considerable delay had occurred in getting pipes and the gas apparatus from England; but in February, 1854, the arrangements were approaching completion, and the company advertised their terms of supply, which, it is to be feared, are so high (possibly unavoidably) as to limit the consumption.

Charge per Month.

From Dark to	Fantail Beak.	Beak of 16 sets.
	fr. c.	fr. c.
10 o'clock	10 50	7 50
11 o'clock	13 0	9 0
12 o'clock	15 0	10 50

By measurement 50 centimes, or half a franc the square metre.

Taking the lowest charge, the single beak to 10 p.m. only, the cost per annum would be 90 francs (3*l.* 12*s.* 6*d.*), a sum beyond the means, I presume, of the generality of the shopkeepers. The fantail light, burnt to midnight, would cost 180 francs per annum, or 7*l.* 4*s.* 2*d.*

Naming Streets and Numbering Houses.—Up to February, 1854, Nice had not advanced so far as to have a systematic naming of her streets and numbering of her houses, and her municipality had, in consequence, been exposed to a good deal of ridicule. The houses were distinguished only by the names of their owners. L'Avenir de Nice of the 8th September, 1853, sarcastically illustrates the want, by supposing a message to be received from Turin that a criminal is secreted in the house called "Tiranty," on the fourth story; but as there are eight mansions called "Tiranty," belonging to different members of the same family, not far from each other, the police, of course, do not know to which to go; and when it is at last found, the criminal had made his escape two hours before. The editor said, all the help he could give was to indicate the bearings by compass of the eight houses from the Pont Neuf. Rubs of this kind at last stimulated the municipality to set about the matter; and when I left Nice in February, people were being employed to paint numbers on the doors.

Mosaic Trottoirs.—Most of the trottoirs in the principal streets are creditable to the taste of the municipality. They are mosaicked in various patterns and devices, by means of small blue, grey, and whitish calcareous pebbles, ranging in size and form from a pigeon's to a hen's egg, and the effect is very pleasing; nor are the feet pained in walking on them.

Finances.—The budget of the municipality for 1854 shows the means at its disposal, to cover permanent charges, and to provide for town improvements. It is divided into eight chapters; and, without entering into details, I give the chief items of receipt.

			Francs.
Chap. 1.—Balances			11,582
,, 2.—Revenue of communal property			29,156
,, 3.—Aids of other communes			762
,, 4—Various revenues—subsidy by Government for the royal roads through Nice			6,000
,, 5.—Various taxes—octroi 230,000, compositions, lettings, tolls, &c. 2,000			232,504
,, 6.—Extraordinary receipts :—			
From the State for beggars forwarded	2,000		
For military transports	600		
Sale of land	5,000		24,735
Concession of land in the country	4,000		
Sale of land in the Boulevard du Midi	10,000		
Legacy to the town by the Count de Barthe, &c.	6,000		
,, 7.—Prestation			6,000
,, 8.—Revenue of the works of Rosetti			60,035
Total			370,774 = £14,831

There is little calling for notice in these receipts, except that above 60 per cent. arises from the barrier-tax upon articles of consumption.

The budget of expenditure for 1854 is divided into active and passive, each of ten chapters or heads.

Nice Budget of Expenditure, 1854.

		Francs.
Chap. 1.	—Interest on debts	44,008
,, 2.	—Expense of administration:—Office, paper, &c. 4,500, indemnity to syndic 1,500, salaries 18,125, agents of the octroi 8,585, municipal guards (25) 11,770, octroi office 2,400, &c.	56,062
,, 3.	—Cantonal expenses:—Justice of the peace and officers	1,510
,, 4.	—Town and rural police, sanitary matters, &c.:—Lighting the streets 22,000, pavements 5,000, fire engine 200, 3 medical officers for the poor 1,200, the midwife (sage femme) of the town 500, foundlings 3,000, commissary of police 1,000, municipal secretary 1,200, superintendent of markets 1,000, food for the poor 2,000, help to women in childbed, &c. 600	53,583
,, 5.	—National guard:—Expenses	9,070
,, 6.	—Public works:—Repairs, promenades, fountains, trees, cantonniers, &c.	19,980
,, 7.	—Public instruction:—Books for the public library 3,000, rent of library and cabinet of natural history 1,150, rent of communal schools 1,525, salaries of professors and schoolmistresses 14,550, grant to the national college 5,000, annual prizes for the schools of design and sculpture 150, schools of physic, chemistry, and anatomy 1,200, curator of the cabinet of natural history, &c. 600	28,475
,, 8.	—Worship and burial grounds:—Wax tapers, masses, patron-saint's day, organist of cathedral, cemetery, &c.	2,084
,,	Miscellaneous charges:—Unforeseen 12,000, national fête, &c. 2,000, grant to the theatre, &c. 5,000, rent of tribunal and chamber of commerce, 450	21,680
,, 10.	—Special charges:—The work of Roselli, 60,035, &c.	65,035
	Total Active	302,490

2nd Part. Passive.

		Francs.
Sinking Fund		4,580
Chap. 6.	—Public works:—Roads 4,500, provincial roads 12,000, new hospital 10,000, new fountains 3,000, for removal of houses 13,680, for streets at the harbour 12,000, purchase of the arsenal and construction of an entrepôt for merchandize, 60,000, naming streets, &c. 2,973, &c.	144,840
,, 7.	—Instruction:—Public and rural schools 2,000, grant to the école de commerce 2,000, extraordinary expenses for the communal schools, in conformity with the legacy of the Count le Barthe 6,000, (last year) grant to elementary school of national college 1,000, &c.	3,850
,, 8.	—Worship and burial grounds:—Finishing the new church at the harbour 3,344, subscriptions for buying the organ of St. Reparata 1,000, for the burial ground of St. Barthélemy 1,893, &c.	7,016
,, 9.	—Miscellaneous expenses:—Grant to chamber of agriculture, &c.	1,200
,, 10.	—Special expenses:—Grant to a poor house to be opened 3,000, grant to the asylum 1,500	4,500
	Total Passive	162,987
	,, Active	302,490
		465,477 = £18,619
	Budget of receipts.... 370,774	
	Deficiency 94,706	
	465,477	

The budget of expenditure amounts to 465,477 francs (18,619*l.*), leaving a deficiency of receipts to cover the expenditure of 3,788*l.* Many of the proposed grants are highly praiseworthy, and exhibit an enlightened spirit. For medical officers for the poor, a town midwife, food for the poor, help to women in childbirth, books for the public library, public instruction, salaries of schoomasters, rent of school-houses, prizes for schools of design and sculpture, grants to schools of physics, chemistry, and anatomy, roads, new hospital, and, by the side of these grants, are those for wax-tapers and masses.

Military Defences.—The sub-division of Nice is under the command of a major-general, with two staff-officers attached; and the garrison consists of two regiments of infantry, a battery of artillery, and a company of carbineers.

Judicial Establishments.—The administration of justice in Nice and the province is by means of a court of appeal and tribunal, each divided into two chambers. The first chamber of the court of appeal has a president and six councillors; the second chamber has a president and six councillors, a secretary and two deputies; the advocate-general and four substitutes, and secretary; an attorney for the poor, and three substitutes. The tribunal of first instance, in the first chamber, has a president and three judges; in the second chamber, a president, two judges, two assistant-judges, an avocat-fiscal, and two substitutes; an assistant-judge, a judge "instructeur," and an assistant judge and a secretary.

But these arrangements would appear likely to be altered by the following proposed judicial system for Sardinia recently laid before the chambers by the minister of justice:—

Procurators of Poor.	Substitute Procurators for Poor.	Huissiers.	Francs. Total 221,500		1st President, Fr. 15,000	2nd Presidents, Fr. 12,000	16 Councillors, Fr. 8,000	Procureur-General Fr. 15,000	1st Substitute Fr. 8,000	2nd Substitutes, Fr. 7,000 6,000	Secretary, Fr. 7,500	Sub-Secretaries, Fr. 2,000
										Advocates of Poor	Substitute Advocates of Poor.	
6	13	24	1,085,100	6 Courts of Appeal:— Turin, Genoa, Casal, Chambery, Cagliaro, Nice	6	7	117	6	6	6	20	
1	1	3	...	Nice	1	...	10	1	1	1		...
			1,130,000	46 Tribunals of Première Instance:—								
				Nice	1	1	4*	1	2	...	...	...
		Total	3,177,400	509 Judges de Mandement, 1,200 to 2,000 Francs each								

* Judges.

By this plan Nice would have only one first president for the court of appeal, ten councillors, one procureur-general, one first substitute, two second substitutes, one attorney for the poor, three court-criers, and two secretaries. The tribunal would have one first and one second president, four judges, one procureur-general, and two substitutes. For Sardinia, the total establishment would be six courts of appeal, forty-six tribunals of première instance, and 509 justices of the peace. Gentlemen learned in the law in England would look aghast at the salaries of the Sardinian judges. A president of the court of appeal, 600*l.* per annum; second president 480*l.*; councillor 320*l.*; procureur-general 600*l.* per annum; first substitute 320*l.*; second substitute 240*l.* to 280*l.*; secretary 300*l.*; first president of the criminal court 600*l.* per annum; second ditto 480*l.*; a judge 320*l.*; the justices of the peace from 48*l.* per annum to 80*l.*

Education.—From the budget of the municipality, it would appear that the authorities are not negligent with respect to this important matter. There are town, commercial, and rural schools, male and female; and pecuniary aid is given to the schools of art and design, physics, chemistry, and anatomy. There is a public library of 24,000 volumes, and a museum of natural history open gratuitously daily. On the 3rd November, 1853, a new school or college, called L'Ecole de Commerce, was opened on a broad basis, having various professors. The building comprises study-hall, hall of classes, chemical laboratory, museum, hall of the arts, covered place for exercise, chapel, infirmary, laundry, wardrobe, &c., and a set of meteorological instruments were being brought into use when I left in February last. But the promotion of education is not confined to the means of instruction: care is taken that the teachers are competent to their labours; and on the 25th July, 1853, the Intendant-General, as President of the Council of Instruction in the province of Nice, republished the regulations of the 13th January, 1846, to insure the qualifications of teachers; to the effect, in reference to female teachers, that, after the 10th August, 1853, normal and preparatory schools would be established for the instruction of school-mistresses. At the same time, all the school-mistresses, or female instructors, who might wish to carry on their occupations, must appear to be examined, to prove their qualifications, provided they have not been examined as prescribed by the regulations of 1845. Applicants for the normal schools not to be under eighteen years of age, and to be provided with certificates of religious and moral conduct, and of health; and on passing, they would be furnished with diplomas.

Learned Professions.—Nice would not appear to be wanting in persons of the learned professions. There are forty-three doctors of medicine and surgery, Italian, French, and English, of whom three are English. There are 8 professors of the French language and science, 2 of English, 9 of Italian, 2 of German, and 2 of Spanish; 5 schools or colleges for boys, and 5 for girls; 16 professors of painting and drawing, 1 of writing, 2 sculptors, 2 of singing, 2 of music, 1 of dancing, 1 of fencing, 1 of horsemanship, and 1 of gymnastics.

Newspapers.—Nice supports three newspapers: "L'Avenir de Nice," a liberal daily paper, in French, ably conducted, and with the

leaders occasionally powerfully written. The "Nizzardo," a liberal paper, in Italian, appearing twice a week; and "La Sentinella Cattolica," in Italian, in the interest of the clergy. Newspaper literature would appear to be very popular in Piedmont, judging from the number which passed through the post-office at Turin between the 20th and 25th April, 1853, of which I have appended a note.* The total number of newspapers which passed through the Turin post-office in 1852, was 4,779,073, for the Sardinian states and for foreign countries 132,171—total 4,911,244. The price of the daily newspapers ranges from a halfpenny to twopence, and some of them are illustrated by wood engravings or lithographs. Although all these indications of intellectual progress are satisfactory, yet they are comparatively of but recent origin and of limited bearing, if the state of instruction in the Sardinian states be correct, as described by Professor Bertie in a letter to the "Parlamento," and republished in "L'Avenir de Nice" of the 3rd March, 1853.

State of Instruction in the Sardinian States, from a Letter of Professor Bertie, published in the "Parlamento." L'Avenir de Nice, March 3, 1853.

Division.	Men.	Women.	Division.	Men.	Women.
	Per Cent.	Per Cent.		Per Cent.	Per Cent.
Turin	44	20	Alexandria	27	10
Chambury	40	21	Savoue	27	8
Verceil	38	14	Genoa	22	12
Nice	36	8			
Ivrie	35	14	Isle of Sardinia:		
Novare	34	15	Sassari	11	1
Coni	30	12	Cagliari	8	1
Annecy	28	22	Nuovo	6	....

The above statistics relate to grown-up men and women apparently, and not to the population.

* The Parlamento of the 1st May, 1853, (Turin) gives the following statistics of the newspapers posted in Turin from the 20th to 25th April:—

Daily.

Gazetta del Popolo	3,330	Opinione	857
Parlamento	2,428	Voce della Libertà	776
Gazetta Piedmontese	1,824	Espero	103
Campana	1,474	Le Sintelle	57
Fischietto	1,095		

Periodical Papers, not Daily.

L'Armonia	1,239	Gazetta Medicale	277
L'Institutore	784	Medicina Militare	161
Bollettino Commerciale	423	Accademia Medico-Chirurgica	150
Il Pirata	399	Nuovo Fischietto	147
Buona Novella	289	Bandiera Nazionale	120
Monitore Militare	210	L'Imparziale	49

The whole number of papers which passed through the Turin Post-office in 1852, was—

For the Sardinian States	4,779,073
For foreign countries	132,171
	4,911,244

According to this statement, Nice has only 36 men out of 100 who have had school instruction, and only 8 women in 100; but Genoa is still lower in the scale (22 men), but a little higher with the women—12 in the 100. The highest proportion for men is 44 per cent., at Turin, and with 20 per cent. for women; but the highest proportion of school-instructed women is 22 in the 100, at Annecy.

Religious Establishments.—Nice has a cathedral, "Sainte Reparata," originally built in the twelfth century, but enlarged in its present form in 1650. There are also six parish churches and six chapels, all for Roman Catholic worship. The English, French, and Italian Protestants have also each a place of worship; and the Jews have a synagogue. At thirty minutes drive from Nice, on Mount Cimies, there is a convent or monastry of Recollets (Franciscan), some of whom make their appearance daily in the town, with their sacks, begging from door to door. Nice has a bishop, seventeen canons, one collegiate, and four collegiate canons; and there are 150 parishes in the province, each with its priest. In the Sardinian states there are forty-one divisions or provinces, 4,242 parishes, 695 canons, 79 collegiates, and 855 collegiate canons. In the Terra Firma, or continental division, there are, secular and regular clergy, not including convents of women, seminaries, noviciates, &c., 17,860, and in the isle of Sardinia 4,277, making a total of 22,137 clergy, or nearly 1 ecclesiastic to 222 inhabitants. The bishops and canons bear the following proportion to the inhabitants in the Sardinian territories, compared with France and Belgium.

States, 1842.	Inhabitants.	Bishops.	Canons.	1 Bishop for Inhabitants.	1 Canon for Inhabitants.
Piedmont	3,787,660	26	1,290	145,679	2,936
Savoy	584,083	4	44	146,022	13,276
Sardinia	547,112	11	216	49,737	2,337
Sardinian States	4,918,855	41	1,550	119,969	3,173
France	35,784,628	80	836	447,270	42,800
Belgium	4,409,386	6	75	734,898	58,794

Sardinia has, therefore, four times the proportion of bishops of France, and nearly seven times the proportion of Belgium; fourteen times the proportion of canons of France, and 19 times the proportion of Belgium.

A painful circumstance was stated in "L'Avenir de Nice," of the 15th September, 1853, that the body of the celebrated violinist Paganini was still at Nice, and unburied in consecrated ground, after a lapse of ten years, in consequence of the Bishop of Nice having refused the rites of sepulture, Paganini not having taken the sacrament before his death. His heir appealed to the Archbishops' Court at Genoa, which decided in favour of the heir. The Bishop of Nice carried the appeal to Turin, where it was equally decided in favour of the heir. The Bishop of Nice now appeals to Rome, and the body still remains unburied in consecrated ground.

Representation.—Nice sends two members to parliament; and the right to vote is with the rate-payers, assessed to a certain amount. There are two electoral colleges in Nice, and the votes inscribed in one are not available in the other. A general election took place on the 8th December, 1854, and there were 702 votes inscribed in the first college, of whom 543 took out their tickets to vote. In the second college 196 names were inscribed, of which number 139 took out their cards. Although the elections were contested in both colleges, there was little bustle, no hustings, no processions, flags, music, or speeches; and everything appeared to be done in a calm business-like manner; and the only agitation appeared to be in the distribution of short printed addresses to the electors,* for a few days previously, and an article or two in the newpapers. As in the two colleges on the 8th no one candidate obtained the requisite majority, the election was repeated on Sunday 11th December.

Prices.—The prices of 1853 are necessarily abnormal from the scarcity which prevailed over Europe, and particularly in the two chief products of consumption at Nice—wheat and wine, the latter owing to the vine disease, which not only enhanced the price of wine above a hundred per cent., but gave bad wine instead of good. I shall not, therefore, quote the prices of the cerealea or wines.

Prices.

	1841.			January, 1854.
	Italian Measures.	English Equivalent.	Price.	
Wheat	La charge	94 Kil.	30 francs	
Barley	Idem	....	18 ,,	
Beans	Idem	....	20 ,,	
Hemp	Quintal	90 lbs. troy	50 ,,	
Finest olive oil, 19 lbs. avoir.	Rub.	25 ,,	16 ,,	16 francs
Fine do., eatable	Idem	....	14½ ,,	
Common oil	Idem	....	7 to 9½ ,,	10 ,,
Red Bellet wine, 4 to 5 years	Rub.	25 lbs. 12 bottles	4½ ,,	The Vin de Suse has greatly enhanced prices
,, 6 to 7 years	Idem	....	6½ ,,	
Sweet oranges, 360 the box	Box	....	21 ,,	
,, 240 ,,	Idem	....	17 ,,	
The finest oranges per 1000	1,000	....	12 ,,	
Dried figs	Rub.	....	8 ,,	25 kilo.
Candied fruits	Idem	....	16 ,,	
Pastes, macaroni, &c.	Idem	....	4 ,,	
Firewood	Quintal	150 lbs. to 1 cwt.	24 sous	30 sous

* ELETTORI.

Volete conservare le libere istituzioni?
Vi sta a cuore la posizione del vostro paese?
V'interessate alla classe operaja?
Ebbene eleggete i candidati che un' amico dell' operajo vi offre.
e sono,
1°. Collegio.—Avvocato Commendatore Gioanni de Foresta.
2°. Collegio—Dottore Gioanni Battista Bottero.

N.B.—Fate attenzione che i voti del 1°. Collegio non servono pel candidato del 2°. Collegio; come neppure non servono i voti del 2°. Collegio pel candidato del 1°. Collegio.

Prices—continued.

	1841.			January, 1854.
	Italian Measures.	English Equivalent.	Price.	
Turf	Sack	....	30 sous	
Charcoal	Rub.	25 lbs.	11 to 14 ,,	14
Beef, roasting (with bone 4½ sous)	lb.	....	6 to 7 ,,	6 sous, or 23 to 26 per kilo. = 5½*d.* per lb. avoir.
Mutton	Idem	....	5 to 6¼ ,,	9 sous, 26 kilo., = 5½*d.* per lb. avoir.
Veal	Idem	....	7 to 8 ,,	8 ,, ,,
Fish	Idem	....	3 to 10 ,,	3 to 30 sous
Bread, finest	Idem	....	3 ,,	3 to 4 ,,
Potatoes	Rub.	....	....	40 ,, formerly 20
Eggs	Dozen	....	9 ,,	18 ,,
Do., fresh laid	Idem	....	18 to 20 ,,	20 to 30 ,,
Milk	Pint	....	4 ,,	5 ,,
Washing small things	Dozen	....	20 ,,	24 ,,
Vin de pays, common	Rub.	12 bottles	45 ,,	12 = 144 sous per rub.
Loaf sugar	lb.	....	7 ,,	6 to 8 sous
Coffee, roasted	Idem	....	16 ,,	12 to 36 ,,
Soft sugar	Idem	....	5 ,,	4 to 5 ,,
Large duck	....	....	....	55 ,,
Fowls	Each	....	18 to 30 ,,	20 to 35 ,,
Capons	Idem	....	50 to 60 ,,	35 to 40 ,,
Turkeys	Idem	....	80 to 120 ,,	4 to 6 francs
Hares	Idem	....	70 to 80 ,,	,,
Partridges	The brace	....	80 ,,	,,
Woodcocks	Idem	....	80 ,,	,,
Greves *or* thrushes	Dozen	....	48 ,,	4 to 5 ,,
Female house servant	Month	....	5 francs	5 to 15 ,,
,, cook	Idem	....	20 to 30 ,,	
Man servant	Idem	....	30 ,,	20 to 37 ,,
1st floor of apartments, 6 to 8 rooms	6 months	....	3000 to 4000 fr.	About the same
2nd ,,	....	....	2000 to 3000 ,,	
3rd ,,	....	....	1500 to 2000 ,,	

Country houses from £120 to £300. The season, which commences 1st October, ends 15th May. At the Hôtel Pension Anglaise a single person may board and lodge for 150 francs a month.

Annual cost of carriage and pair:—Coachman's wages		300 Fr.
,,	Do. board	300
,,	Each horse, 300 francs	600
,,	Stabling and wear and tear of carriage	300
		1,500 = £60.

On the 6th December, 1853, a riding-horse was advertised to let at 70 francs a month, or about 12*s.* a week. The kilo. is 38½oz. of Nice.

Winter Families.—Nice derives much of its well-being from the influx of families from various parts of Europe during the winter. The following table shows that this influx emanated from fourteen nations, and in the season of 1852-3 consisted of 777 families. The season of 1853-4 was looked upon as a bad one; and there were great lamentations about the number of vacant lodgings.

Germans.	Americans.	English.	Belgians.	Spaniards.	French.	Dutch.	Italians.	Poles.	Prussians.	Russians.	Swiss.	Swedes.	Various Nations.	Total.
32	10	208	5	4	357	6	81	11	7	23	14	5	14	777

The French exceed the English; but these two nations exceed all the other nations put together.

Post-Office.—Postage-stamps are used in Sardinia of the value of twenty-five centimes, or 2½*d.* for a single letter.

Money.—The money, weights, and measures of Piedmont are those of the decimal system of France—metres, millimetres, kilogrammes, francs, and centimes, &c.; and, considering the presumed difficulty in the introduction of a new system, amidst a people so wedded to usage as the Italians, and who were so inadequately instructed, the success of the attempt may teach our objectors to the introduction of the decimal system into England a salutary lesson, that the good sense of a people in the end reconciles them to national changes, which, in the first instance, are irksome and distasteful because they are new. Indeed, such have been the effects in Piedmont, that some of the ancient copper coins, with the effigy of Victor Amadeus upon them, of the value of twenty and ten sous, have now a current value of only eight and four sous. Personally, in drawing up the preceding paper, I have daily had to lament a waste of time and exhaustion of patience in the reduction of the decimal standards of France and Italy into our hetereogeneous and unconformable monies, weights, and measures; and I must indulge in the expression of hearty wishes that we may speedily be released from our system which is not less unphilosophical in its arrangement than it is burthensome and embarassing in practice.

551.35
Syr/on. t

On the Fall of Rain on the Table-land of Uttree Mullay, Travancore, during the year 1846, *from observations made by* General Cullen, *Resident in Travancore. By* Lieut.-Colonel SYKES, *V.P.R.S.*

At the Meeting of the British Association at Southampton I communicated to the Physical Section some meteorological records of General Cullen made at certain stations in the south of India. The results exhibited singular discrepancies in the fall of rain at the several localities, particularly at Cape Comorin, although the differences of temperatures were unimportant at stations not differing greatly in their level above the sea or in their latitude. The most remarkable feature was the small quantity of rain at Cape Comorin and Vaurioor at the extremity of the peninsula, amounting only from 18 to 25¾ inches in the years 1841, 1842 and 1843, while from 100 to 131 inches fell at places on the Malabar coast, and about 290 inches fell on the table-land of Uttree Mullay, not far in the interior. I suggested to General Cullen an examination of local physical circumstances, with a view to account for the variations. In a letter in reply, dated the 6th of January last, from Trevandrum, General Cullen said that the General Tables were ready for 1844, 1845 and 1846, but that public business had left him without leisure to comment on them, or to complete the barometrical sections which he contemplated; and all that he could then do was to transmit to me a continuation of the rain and temperature observations for 1846 on the table-land of Uttree Mullay at 4600 feet above the level of the sea, adding in an abstract, in parallel columns, the comparative fall of rain at Trevandrum and Quilon. For a future communication therefore is reserved General Cullen's views of the question submitted to him, and the present notice is limited to his daily observations of the fall of rain and the temperature at Uttree Mullay. The fall of rain was recorded twice daily, at 6 A.M. and 6 P.M., and the temperature thrice daily, 6 A.M., 2 P.M. and 6 P.M. In 1844–45 the fall of rain had been 290 inches: in 1846 it was only 235·8 inches. It has been formerly stated that Uttree Mullay is under the influence of both monsoons. Rain fell in every month in the year, although the months of February and March may almost be considered exceptions; for in the former month rain fell only twice to the amount of 0·45 of an inch, and in the latter month on five occasions, but to the amount only of 0·72 of an inch. The greatest monthly fall of rain was in the month of June, 51 inches, in the S.W. monsoon, and the next greatest fall in October, in the N.E. monsoon, 38·25 inch. In the months of May, June, July and August the S.W. monsoon may be considered to have prevailed, and 143 inches of rain fell. A *comparative*

cessation occurs in September, when the monthly minimum of 22 inches in August of the S.W. monsoon is reduced to 7·3 inches. The N.E. monsoon commences in October with 38·2 inches, gradually diminishing in amount until January, the last month of the N.E. monsoon, when the fall in 1846 was reduced to 4·6 inches, the whole fall in the four months of the N.E. monsoon being about 75 inches. February, March and April are the precursors of the S.W. monsoon, and September intermediate between the termination of the S.W. monsoon and the commencement of the N.E. monsoon. The average annual fall of rain upon this elevated table-land during the day and during the night does not appear to differ materially, although it is somewhat in excess at night, being 123·1 inches to 112·7 inches during the day. The excess at night however does not hold good through all the months. In May there were 17·1 inches by night and 19·7 inches by day; in August 8·8 inches by night and 13·3 inches by day; and in September 1·9 inch by night and 5·6 inches by day. Neither is there any uniformity in the fall of rain in the same months of the two monsoons in successive years, but the maximum monthly fall will be found in one of the four months of the respective monsoons, although it may occur in May in one year and in August in the following, or in October of one year and in December of the next in the N.E. monsoon. While 235·8 inches fell in 1846 at Uttree Mullay, 69·9 inches only fell at Trevandrum, and 74·7 inches at Quilon; in May 11·4 inches fell at Trevandrum, but 22·7 inches at Quilon on the coast; in October the case was reversed, 17·5 inches fell at Trevandrum and only 9·4 inches at Quilon. In 1844–45 an instance was given of a fall of 9 inches of rain in one day, on the 10th of October, at Uttree Mullay; and on the 26th of November of 7·35 inches. Nothing similar to the first fall occurred in 1846, the greatest being 7·6 inches on the 25th of May; and there are three instances of a daily fall of nearly 7 inches on the 24th of April, 12th of July, and the 13th of October. The monthly *mean* temperature at Uttree Mullay, at 6 A.M., varied only from 57°·5 in January to 65°·75 in August and September; at 2 P.M. from 66°·25 in June to 73°·75 in April; and at 6 P.M. from 62°·25 to 67° in the months of April and July. The annual mean at the respective hours was 63°, 69° and 65°·16, and the mean of the whole observations 65°·66. The extreme annual range of the thermometer was from 55·5 on the 31st of January and 15th of December to 78° on the 6th, 21st and 22nd of April, so that the extremes differed from the mean by only 10°·16 minus and 12°·34 plus. With such limited general results it would be superfluous to particularize monthly variations of temperature.

Abstract.

Months in 1846.	Uttree Mullay.					
	Rain.			Thermometer.		
	Day.	Night.	Total.	6 A.M.	2 P.M.	6 P.M.
	inches.	inches.	inches.			
January	3·050	1·600	4·650	57¼	66¾	62¼
February	0·400	0·050	0·450	60	68¾	64
March	0·550	0·175	0·725	62¾	71¼	64¾
April	4·050	5·550	9·600	64½	73¾	67
May	17·100	19·700	36·500	64¾	72	66¾
June	28·700	23·300	51·050	64¼	66¼	64¾
July	17·400	14·675	33·325	63	68	67
August	8·850	13·375	22·125	65¾	68¼	66¼
September	1·925	5·600	7·325	65¾	70¼	66¼
October	23·750	14·200	38·250	64¼	68	64¼
November	10·325	11·350	21·675	63¼	68¼	65
December	7·100	3·200	10·200	60	66¾	63¾
Grand total...	123·200	112·775	235·875	63	69	65⅛
				Mean 65⅜		

Rain in 1846.

1846.	On Uttree Mullay.	Trevandrum.	Quilon.
	inches.	inches.	inches.
January	4·650	0·100	0·000
February	0·450		
March	0·725	1·075	2·900
April	9·600	4·025	1·600
May	36·500	11·425	22·700
June	51·050	17·750	17·650
July	33·325	6·925	10·550
August	22·125	3·675	3·800
September	7·325	0·750	1·300
October	38·250	17·500	9·400
November	21·675	4·400	4·755
December	10·200	2·300	0·100
Total	235·875	69·925	74·755

On Atmospheric Disturbances, and on a remarkable Storm at Bombay on the 6th of April 1848. *By* Lieut-Colonel Sykes, *V.P.R.S.*

Numerous are the expressions of surprise in England at the extraordinary character of the meteorological phænomena since last year. Mr. Glaisher of the Royal Observatory, Greenwich, in remarks on the weather during the quarter ending the 31st March last, says, "The weather during the past quarter has been remarkable in many respects. The daily temperature has been *above* the average; yet there has been exceedingly cold weather between the 20th and 26th January; and the temperature of the preceding quarter was in excess to the amount of 3°·4. The mean temperature of evaporation and of the dew-point above the average; the mean weight of water in a cubic foot of air of the same value as for the preceding six years. The quantity required to complete saturation 0·47 of a grain; the average for the preceding six years being 0·36 of a grain. The barometer was 0·132 below the average of seven years and the readings remarkable; and the great fluctuations in the readings appear to have been general, and differing from any period since 1800." A sympeisometer in my house in Albion Street, Hyde Park, in December last, fell 1 inch in twenty-four hours *without a storm*; and I have frequent records of rain without the sympeisometer being moved. A correspondent of the *Times*, in a letter dated Bermondsey, 7th Dec. 1847, speaks of the sudden and extraordinary changes in the atmosphere, and adds that his barometer, which stood at 29·92 at 11 P.M. Sunday, 5th Dec., had on Monday the 6th, at 8 A.M., sunk to 28·92, a difference of 1·2 inch in nine hours; and at 12 o'clock Monday night of the 6th, it stood at 28·54; a difference of 1·38 inch in twenty-five hours, the air in that interval having been relieved of pressure at the rate of 326 lbs. on every square foot of superficial area. Magnetic instruments also have shown unusual disturbances. The fall of rain has been nearly double that of the preceding six years, and 2¼ inches above the average since 1815. The range of a protected thermometer was from 71°·5 to 15°·7 or 55°·7; but a thermometer on the grass at Durham fell below zero; and on the 12th of July preceding it stood at 87 in the shade in London.

In the north of Scotland in January, correspondents wrote, "We have had the extremes of weather." Strange as it may appear, two gentlemen, Mr. Stericker and Mr. Whilburn, were frozen to death in September in Invernesshire. Short intense frosts and rapid thaws characterized the winter in England. At Madrid, in January, the cold was intense, yet in Lancashire there were some fresh sprigs of hawthorn 3 inches in length, and leaves of the honeysuckle open; and the primroses and foxgloves were as much advanced as if it had been the month of March; and the wild fowl, which usually pass in November, did not pass until the middle of December.

On the 12th of December, near Penzance, four whirlwinds occurred, unroofing houses and overturning furze and turf-ricks, and carrying with them great quan-

tities of snow, tiles, slates, &c. They were like inverted cones of vapour,—revolved swiftly on their axes, and coursed along at the rate of 20 miles an hour. Rotatory whirlwinds in the midst of winter, which are only seen in tropical climates in the most intensely hot weather, seem remarkable phænomena. Amongst the other physical phænomena in accord with the tumults amongst men, was that of the eruption of Vesuvius, which during my stay in Naples the last days of March and beginning of April in the present year, was pouring out four fiery streams of lava amidst explosions.

But meteorological anomalies were not confined to Europe; and if we look to the records of India for the last year, we shall find that observers have had equal cause for surprise and comment:

"Tuesday, February 16.—From the Bombay papers it appears that they have actually had ice at Poona."—*From Bengal Hurkaru.*

This was almost a miracle, for such a circumstance had never been recorded before.

"The cold weather, which *so suddenly* and *unexpectedly* returned upon us, has now taken what we may consider its final departure for the season."—*Calcutta Hurkaru*, Feb. 18, 1847.

"There had been a very severe storm in the northern hills—at Simla snow lay three feet deep and all the high grounds about the Dehra Dhoon were covered."—*Bombay Times*, May 2, 1847.

From the Deccan the accounts, on the 22nd of February, 1847, state,—"We have had rain all over the Deccan from the south-east, strange at this season; the rain was also heavy and continuous, quite monsoon weather."

On the 15th of November, 1847, the editor of the *Bombay Times*, Dr. Buist, a distinguished meteorologist, has the following remarks in his paper respecting the great anomaly of a large fall of rain in November, a month of the dry season:—

"November has opened as if another monsoon were just commencing. On Saturday and Sunday the thermometer rose on the Esplanade as high as 90°; in the coolest and most airy buildings in Colaba it stood at 87°; the wind dry and blowing strong till past noon from the north-east. On Sunday evening there was some thunder and a few drops of rain, and on Monday a stiff breeze blew about sunset from nearly east, and the sky looked most threatening. All yesterday it was close, hot and muggy, a slight shower having fallen in the morning—thermometer 85°, the barometer slightly down."—*Bombay Times*, Nov. 3.

"We mentioned in our last that we had had some thunder with a threatening of November showers: they have come in greater abundance than was expected. About midnight on Tuesday a very heavy fall of rain commenced and continued for a couple of hours, and all over the morning it looked thick and lowering. Little rain fell next night, but there were showers over the morning, and betwixt one and three on Thursday it rained heavily, and continued cloudy all the afternoon and evening. About ten o'clock a thick close rain commenced, with a bleak north-east wind: both have continued ever since. Yesterday was more like the middle of the monsoon than a day in clear and dry November. The thermometer, which on Sunday stood at from 85° to 90°, has all at once plumped down to betwixt 70° and 75°—*a change great and sudden enough to be very unpleasant to the feelings.* More than 3 inches of rain fell. The barometer has *all this while stood high, and made no sign!* The rains appear to have been general all along and below the Ghauts: the Mahabuleshwar range seems to have suffered severely. We have just heard of much mischief having been occasioned to the unstacked rice all over the island, and the damage must be general wherever grain crops are still in the field: all the low grounds are flooded, and the dry channels running torrents.

Fall of rain in the Fort during November.	in.
Up to 6 P.M. 1st Nov.	0·00
,, ,, 2nd ,,	0·00
,, ,, 3rd ,,	0·65
,, ,, 4th ,,	0·06
,, ,, 5th ,,	2·87
	3·58"

—*Ibid.* Nov. 6.

"The weather has taken this week *almost as sudden a change as it did last*, but on the present occasion fortunately it is in the right direction. The rain, which continued to pour in torrents till early on Saturday morning (upwards of two inches of rain fell during Friday night—making a total fall of *nearly six inches during November*), faired up on that day. We have now in fact fairly got into the cold season with all its nipping freshness: a coat is at no time unpleasant—blankets overnight indispensable. The thermometer ranges from 72° to 79°. So thoroughly drenched have been the paddy-fields that we have still two or three inches of water all over the surface of the flatter portions of the ground."—*Ibid.* Nov. 10.

"The weather has now set in steady and cool, the thermometer ranging from 70° to 79°—water in exposed situations falling as low as 65° overnight. The sea and land winds are fresh and strong."—*Ibid.* Nov. 13.

"From out stations we gather the following items:—

"SURAT.—A letter from Surat informs us of an unexpected flood which had occurred on the Taptee, which had commenced at noon on the 7th, the river continuing to rise for about twenty hours, when it had attained near the town a depth of fifteen feet above its previous level. The cut connecting the river from Burcutcha with the sea relieved the flood and saved the city from desolation similar to the visitations of this sort which formerly afflicted it in cases of freshes in the river. Several pattimars had been driven from their anchorages; some cattle had been drowned, and three carts on their way from Broach were said to have been carried away. A heavy fall of rain in the Malwa district was supposed to have been the cause of the flood. The rains which prevailed here betwixt the 3rd and 5th must in fact have been very general: the commencement of them at the former date on the Coromandel coast is mentioned by our Madras contemporaries: at Poona upwards of three inches of rain fell; and a heavy fall occurred at Belgaum; while all along the Ghauts the storm seems to have prevailed. *It is curious that at Poona more than twelve inches of rain have this year fallen in April and November—both falls in the fair season.*"—*Times*, November 13.

These notices of atmospheric disturbances, which I could very considerably increase, I have thought to be suitable precursors of a notice of a remarkable storm in Bombay on the 6th of April last, in which the barometer rose instead of falling; the facts being supplied by the Magnetic Observatory, and the comments by that very zealous and able promoter of scientific research, Dr. Buist, LL.D., the Editor of the *Bombay Times*.

THE STORM OF THE 6TH OF APRIL 1848.

State of the Weather.

April 6th, 9 A.M. Nimbi, cirrocumuli and cirri throughout, except in the S.W., which is clear.
..... 10 A.M. Overcast by nimbi and cirrocumuli.
..... 11 A.M. Overcast by nimbi and cirrocumuli; a few breaks in the N.
..... 12 A.M. Nimbi scattered throughout.
..... 1 P.M. Nimbi in the horizon from N.E. to S.W. (by E.); masses of fleecy clouds scattered throughout the zenith.
..... 2 P.M. Nimbi scattered; clear in the S.W.
..... 3 P.M. Nimbi all round the horizon, and cirri in the S.W.; zenith clear.
..... 4 P.M. Nimbus and cumuli all round the horizon, very dense in the S.E.; zenith clear.
..... 5 P.M. Nimbus; cumulostratus extending from N.E. to S.E.; cirri scattered throughout the whole of the sky.
..... 6 P.M. Electrified cumuli extended from N. to S.E., and nimbi scattered throughout; masses of scud coming from the S. and W.
..... 7 P.M. Nimbus and scud coming from the S.W. and forming into dense masses in the N.N.E. and S.E.; lightning at intervals of 5 min.
..... 8 P.M. Densely overcast; thunder in continued peals, N. and E. of zenith; vivid lightning, flash after flash, from N. to S.W. (by M.); rain in large drops since $7^h\ 30^m$.
..... 9 P.M. Densely overcast; thunder and lightning increased, and in all

quarters. Drizzling rain, in large drops, has continued to fall since last observation.

April 6th, 10 P.M. Densely overcast; squalls of wind and rain; lightning flashing and thunder pealing in all quarters; at $9^h\ 20^m$ violent gusts of wind, which lasted 20 minutes.

..... 11 P.M. Densely overcast; drizzling rain—thunder and lightning still continuing.

April 7th, midnight. Overcast; rain falling in small drops; thunder and lightning decreasing.

..... 1 A.M. Overcast; no rain; lightning in the S. and S.W. at two seconds interval; the thunder has ceased.

..... 2 A.M. Do. do. do. do.

..... 3 A.M. Nimbi; stars faintly seen; lightning in the S. at intervals of 15 min.

..... 4 A.M. Nimbi; zenith clear; lightning in the N.W. horizon.

..... 5 A.M. Overcast; lightning in the N.E.; thunder in the N.

..... 6 A.M. Nimbi.

..... 7 A.M. Nimbi; fleecy clouds moving from the N.E.

..... 8 A.M. Nimbi; cirrocumuli in the zenith.

..... 9 A.M. Cirrostratus and cirrocumuli; many breaks in the zenith.

Abstract of Meteorological Observations from the Observatory Report, from 9 A.M. *April* 6, *to* 9 A.M. *April* 7, 1848.

Bombay, Magnetic Observatory, 8th April, 1848.

Days and hours.	Standard barometer corrected.	Air-thermometer.	Wet-bulb thermometer.	Pressure of moisture.	Humidity of air.	Wind.		Rain in inches.	Extent of cloudy sky.
						Direction.	Force in lbs.		
6th April, 9 A.M.	29·847	80°5	77°0	0·772	0·85	S.S.E.	0·05	...	5/8
..... 10 A.M.	29·857	85·4	77·0	0·818	0·90	S.S.W.	0·05	...	whole
..... 11 A.M.	29·861	87·6	78·0	0·833	0·89	W.N.W.	0·05	...	7/8
..... 12 A.M.	29·827	87·4	78·0	0·836	0·89	W.S.W.	0·16	...	7/8
..... 1 P.M.	29·782	89·2	79·0	0·858	0·89	W.S.W.	0·21	...	1/2
..... 2 P.M.	29·745	89·0	79·0	0·860	0·89	W.S.W.	0·10	...	3/8
..... 3 P.M.	29·701	88·0	79·0	0·871	0·90	W.S.W.	0·36	...	whole
..... 4 P.M.	29·707	86·0	79·1	0·897	0·92	W.S.W.	0·42		
..... 5 P.M.	29·727	85·0	79·0	0·904	0·92	W.S.W.	0·36	...	3/4
..... 6 P.M.	29·764	83·5	79·0	0·921	0·95	S.W.	0·46	...	3/4
..... 7 P.M.	29·799	82·7	77·0	0·847	0·93	S.	1·00	...	3/8
..... 8 P.M.	29·798	79·5	77·5	0·902	0·98	S.	1·25	0·01	whole
..... 9 P.M.	29·830	77·5	75·0	0·826	0·97	N.E.	1·20	0·01	whole
..... 10 P.M.	29·920	69·3	70·0	0·734	1·00	E.N.E.	2·10	0·34	whole
..... 11 P.M.	29·857	71·2	70·0	0·713	0·98	N.N.E.	1·78	0·08	whole
7th April, midnight.	29·789	72·0	70·0	0·704	0·97	E.N.E.	1·52	0·03	whole
..... 1 A.M.	29·784	73·4	72·0	0·760	0·98	S.E.	0·10	...	whole
..... 2 A.M.	29·761	75·0	72·5	0·759	0·97	S.S.E.	1·04	...	whole
..... 3 A.M.	29·766	75·8	72·0	0·733	0·95	S.E.	0·94	...	7/8
..... 4 A.M.	29·777	75·5	72·5	0·755	0·96	S.S.E.	0·62	...	3/4
..... 5 A.M.	29·779	75·7	73·0	0·771	0·96	S.	0·62	...	whole
..... 6 A.M.	29·799	77·0	73·0	0·757	0·95	S.	0·52	...	whole
..... 7 A.M.	29·827	78·5	74·4	0·793	0·95	S.	0·52	...	whole
..... 8 A.M.	29·872	80·4	75·2	0·803	0·93	S.	0·36	...	7/8
..... 9 A.M.	29·876	81·3	74·0	0·747	0·90	S.S.E.	0·05	...	7/8
Total fall of rain								0·47	

NOTE.—*Remarks on the Thunder and Lightning Storm of the 6th of April* 1848.

At 6 o'clock in the evening the appearance of the sky in the N. and E. was very remarkable:—Cumuli, cumulostrati, and scud, were cumulating in the N. and across the E. to S.E., rising to an elevation of nearly 60° from the horizon. Upon

these were masses of nimbi that came floating from the S.W., from which quarter the wind was blowing with a force of 046 lbs.; deep mutterings of thunder were heard: and lightning was seen to flash vividly, upwards, from the summit of the clouds along their whole breadth, or from N. to S.E.

At $6^h\ 45^m$.—The wind changed from S.W. to S., and the clouds in the N.E. and E. became more threatening in their appearance; and at this period the lightning, which was of a brilliant purple colour and very vivid, flashed continually; each flash was followed by loud peals of thunder. The character of the lightning in this second appearance was more terrific than before, as every flash was vertical, and several times these vertical streams were visible simultaneously, and as many as five were distinctly counted, at irregular distances from each other, varying from 2° to 12°.

At $7^h\ 30^m$.—Rain began to fall in large drops; the thunder and lightning increasing till $9^h\ 00^m$, when the wind moved round to N.E. (by E.), and the whole of the sky presented one dark mass of nimbi; the thunder and lightning still continuing.

At $9^h\ 15^m$.—A gale of wind came on from the N.E. with a force of nearly 6 lbs.; and at $9^h\ 20^m$ it reached its maximum force, which was nearly 9 lbs.; the whole time which it lasted was about 20 minutes. During this gale the *barometer rose* (instead of falling) to 29·920, or about 0·1 of an inch above its true level; when the gale was over, *it rapidly descended* to nearly its former readings, as will be seen from the accompanying observations of the meteorological instruments; at $10^h\ 40^m$ the wind became due north.

The thunder and lightning continued, but at greater intervals; and the rain falling till midnight, at which time the rain ceased. But the thunder and lightning may be said to have continued all night.

From the peculiar rise of the barometer during the worst part of the gale, it is supposed that a heavy storm was felt somewhere on the mainland to the E.N.E.; and the gale which we felt was only the momentum that the air received when rushing towards that place; it is also possible that the storm was raging there very heavily at sunset. During the worst part of the gale the temperature suddenly *decreased* 10°.

It may be here remarked, that during the continuance of the gale, which was felt along the coast, and very slightly in Bombay, in April last year, our magnetic instruments remained *perfectly steady*; but as soon as the gale passed away, they became disturbed, and continued so for 54 hours. This year precisely the same remarkable phænomena have taken place, as during the whole time of the meteorological disturbance of the last few days they *remained steady*, but at 8 o'clock this morning they became disturbed (or the magnetic storm commenced), and continue so up to the present time.

The rising of the barometer with the storm and the falling after it; the magnetic instruments remaining quiescent during the storm, and being disturbed after it; and the sudden fall of temperature of 10°, are all sufficiently remarkable facts. Upon the above return Dr. Buist observes,—"The disclosures made are singular; the wind on the morning of the 6th blew from S.S.E., an unusual quarter; from this it swept round by S. and S.W. to N.N.W., and then moved back again to W.S.W., where it remained till evening. It then set first to S.W., and then veered round to S. From this it travelled round in an easterly direction to N.E., E.N.E., N.N.E., and so swept back by E. to S.,—having in the course of twenty-four hours twice swept round three-quarters of a circle and so swept back again, leaving the segment betwixt W.N.W. and N.E. untouched. At ten o'clock (P.M.), when the storm was at its wildest, the barometer *actually rose instead of falling*, and that by no less than about 00·08 above the level due to ten o'clock, interpolating from the readings of nine and eleven. The diurnal curve, indeed, is remarkable. On the 6th the mercury reached its maximum elevation at eleven A.M. instead of a quarter before ten—the average hour for maximum, and its afternoon minimum at three instead of a quarter past four; so that instead of six hours and a half, the usual time, there was less than four hours of an interval between the epochs of maxima and minima. These things are of very great importance as subjects of attention, considering the smallness and extreme inequality of our range. It attained its maximum at the proper hour, ten

P.M.—this, as already stated, being marked by a sudden jump of no less than eight hundredth parts of an inch above what was due. The epoch of morning minimum, again, was two o'clock, or two hours earlier than usual, the interval having been this much shortened. The return does not afford the morning maximum of the 7th, but the mercury continued steady till nearly nine o'clock, and would probably reach its turning-point at ten, giving an interval of no less than eight hours of time. The range betwixt the evening minimum and maximum on the 6th was ·219, or, if we subtract ·080 for the jump, ·139,—a high range for the season. At ten o'clock the air was saturated with moisture, the wet-bulb standing ·7 higher than the dry, the latter having *in two hours'* time tumbled down from 79° to 69°, and in the course of the ten hours having had a range of no less than 20°—a very unusual circumstance in Bombay. From the rise of the barometer, it was inferred at the observatory that a storm was raging on the mainland somewhere to the E.N.E. of us. *Just after the gale had ceased, the magnetic instruments began to be disturbed, and this is the third time the same thing has happened at the observatory on the back of a storm within little more than two years*—on the 4th of December 1845, and in April 1847 and 1848. On the first-named of these days there was a magnificent display of *Aurora* in the northern sky, and a great magnetic disturbance all over the world; on the last two occasions just named we have seen no account of any irregularities anywhere but at Bombay. Now that it has occurred so frequently as to call attention and forbid the idea of the coincidence being accidental, it will be interesting to learn from other observatories what has occurred, and to watch with extreme care whether these things always occur coincidently, or whether there are local laws at work here to stir the magnets after a storm at certain seasons only. The first notice of the subject we remember is that published by Mr. Orlebar in the *Bombay Courier* of December 1845; for the three preceding years the magnetometers were in general remarkable for their steadiness during tempests. On the evening of the 6th we had streams of electric fluid rushing like a handful of beads in rapid torrents to the ground; this beautiful and sublime appearance, only witnessed when the thunder-clouds are near us, has been frequently before described.

"Since writing the above we have been favoured with the following notice of the state of the weather at Nassick on the 6th and 7th. From this it will be seen that the conjecture of a storm having occurred to the north-eastward of us about sunset proves correct. It is unfortunate that Dr. Stuart should not have been possessed of a barometer or any other means of measuring pressure, or we should in this case have been able to trace the analogies or anomalies existing at the two localities. Nearly all the phænomena observable at Bombay betwixt nine and twelve were observed at Nassick betwixt five and eight, or with a regular interval of four hours. The following will show with what exactness these things may be made out;—

Nassick.	*Bombay.*
"6½ P.M.—Strong breeze from S.E. This soon became a perfect hurricane, and so continued a little more than half an hour, when it suddenly abated. It was accompanied by heavy rain and some hail; vivid flashes of lightning speedily followed, with crashing peels of thunder, till three o'clock A.M., when the breeze again freshened from S.E.	"9 P.M.—Gale of wind came on from N.E. Lasted about twenty minutes. At ten wind bore due north. Thunder, lightning and rain continued till two A.M. Wind had veered round from S.E. to S.S.E.

"The storm at Nassick was in reality in the sky seen at sunset from Bombay, though it did not reach us till four hours afterwards. The duration of this irregular state of things leads to the inference that atmospheric disturbances must have stretched far into the interior. The Nassick storm moved towards Bombay at the rate of twenty-four miles an hour."

Dr. Buist concludes by observing, "at present the irregularities of the weather at this usually regular and tranquil season of the year are so remarkable as to deserve every attention from the meteorologist." He then adds the letter giving an account of the storm at Nassick on the first eight days in April.

Subsequently to this storm, the Bombay papers of the 19th of June speak of an earthquake which extended over 10° of latitude and as many of longitude, having

been felt all along the line from Bombay to Simla; 35 inches of rain had also fallen in the first nineteen days of June, a quantity nearly equal to one-half of the average fall for the whole four and a half months of the monsoon.

Meteorologists need a philosophic and comprehensive explanation of the causes of such atmospheric disturbances, which not only have an important bearing upon vegetable development, but unquestionably have a most disastrous effect upon the public health. At one period during the last quarter in London the excess of deaths exceeded by 200 daily or 1400 per week the usual average, and this mortality, chiefly from influenza, exceeding that from the Asiatic cholera, was attributable to atmospheric causes.

I have thought it right to append the following rain-table as a valuable record.

Register of the Pluviometer at Bombay from 1817 to 1847.

Years.	June. Total fall in the month.	July. Total fall in the month.	August. Total fall in the month.	September. Total fall in the month.	October. Total fall in the month.	Total fall in June, July, Aug., Sept. and October in each year.
	inches.	inches.	inches.	inches.	inches.	inches.
1817	45·72	23·67	9·34	24·87	...	103·60
1818	22·54	17·69	28·45	10·30	2·00	81·14
1819	15·95	31·60	20·24	10·11	...	77·96
1820	18·82	28·37	19·49	10·66	...	77·34
1821	15·18	20·60	28·52	18·29	...	82·59
1822	29·64	26·59	33·83	22·16	...	112·22
1823	21·76	15·96	19·70	4·28	...	61·70
1824	3·89	8·07	17·86	1·78	2·27	33·97
1825	24·45	25·17	12·94	9·68	...	72·24
1826	17·75	26·97	8·40	23·50	1·87	78·49
1827	49·15	10·29	10·51	10·16	0·92	81·03
1828	23·53	52·75	17·22	22·08	6·40	121·98
1829	27·86	19·78	12·40	4·95	0·66	65·65
1830	20·96	32·46	10·66	7·78	...	71·86
1831	22·16	27·31	27·64	22·34	2·08	101·83
1832	13·63	48·05	4·65	7·11	0·65	74·09
1833	12·50	21·80	13·35	23·54	0·20	71·39
1834	14·16	21·83	18·05	12·55	3·88	70·47
1835	9·99	4·27	35·76	12·17	0·42	62·61
1836	21·36	24·05	37·41	4·69	...	87·99
1837	12·61	24·39	22·43	5·15	...	64·58
1838	29·70	8·70	7·34	5·04	...	50·78
1839	18·28	32·19	18·45	4·70	...	68·62
1840	25·04	24·24	4·20	7·55	2·12	63·15
1841	25·27	21·21	20·53	1·27	3·21	71·49
1842	16·84	26·45	37·10	10·11	4·36	95·16
1843	9·33	22·49	18·20	9·00	0·25	59·27
1844	14·17	35·52	6·55	9·16	...	65·40
1845	19·70	20·44	6·56	8·03	...	54·73
1846	31·71	40·56	5·60	8·45	1·16	87·48
1847	35·47	16·80	8·92	5·80	0·32	67·31
Average annual fall in the last 31 years						75·42

616.87
SHK/Sta

Statistics of the Metropolitan Commission in Lunacy. By Lieut.-Col. Sykes, F.R.S., Vice-President of the Statistical Society of London, &c., Commissioner.

[*Read before the Statistical Society of London, 15th June* 1840.]

The establishment of a Board so important to the interests of the public, the cause of humanity, and the security and proper treatment of unhappily afflicted individuals, as the Commission in Lunacy, is owing, not less in its original design than in its consolidation and practical working, to the philanthropic zeal and perseverance of Mr. Robert Gordon, M.P. for Windsor, and at present Joint Secretary to the Treasury.

Mr. Gordon moved for a committee of enquiry into the regulation of Lunatic Asylums in 1826-7, during the short administration of Mr. Canning; and the frightful abuses discovered in the progress of the enquiry led to the establishment of the Metropolitan Commission in Lunacy, by the Acts of the 9th and 10th George IV.

Nevertheless, the state of some of the asylums in London and its neighbourhood, owing to certain defects in the mode of systematic and efficient supervision, called for the further interference of Government, not only to secure to the afflicted proper medical treatment, food, comforts, and regulated freedom from restraint, but also to prevent or remedy the oppressions of parties who might work out selfish objects, through the confinement in a mad-house of the imbecile, the ignorant, the helpless, and the unprotected. It will be understood how much it was the interest of parties, with a view to enhance their profits, to place patients under constant restraint, instead of having a proper number of keepers to look after them; how much it was an object to confine the aliment to the lowest and coarsest means of subsistence, to the exclusion of little luxuries and comforts; and that cleanliness and ventilation could scarcely be looked for in the clothes, bedding, or apartments, where these essentials could only be secured by the constant and daily, nay, hourly, labours of a sufficient number of active attendants. To guard against or to remedy the frightful evils of such contingencies, the modified Commission in Lunacy was established by the Acts of 2nd and 3rd William IV., and 3rd and 4th William IV., for three years, and to the end of the next session of Parliament; and it has since been renewed for a similar term, by the Act of 1st and 2nd Victoria, c. 73.

It is necessary to preface the statistics of the commission with a few words explanatory of its constitution, its powers, and its mode of working, not only that its utility may be more generally known to the public, giving assurance, as it does to the relations of the afflicted, that patients *must have justice done to them*, if the commissioners do their duty, but also with a view to call the attention of the county sessions to the advantage of the establishment of a similar systematic supervision in their counties, and to stimulate them to the maintenance of active relations with the Metropolitan Board. The Commission in Lunacy is appointed annually by the Lord Chancellor, between the 1st and 10th of September, and the nomination must appear in the Gazette within ten days. There must not be above 20 nor less than 15 commissioners. Five must be physicians and two barristers; the rest are selected from gentlemen who can be induced to take upon themselves the gratuitous and painful, but touching and important office. A quorum take a certain

specified oath before the Lord Chancellor; and this quorum can then swear in the rest of their colleagues as opportunities offer. The professional gentlemen are paid 1*l.* per hour, while employed. No commissioner can have an interest in any of the establishments; nor can the physicians or barristers attend professionally in any house, unless so directed by the relatives of parties or by the commission. The commissioners have power to grant licenses, and to refuse to renew them, if they see fit, within London, Westminster, Southwark, and Middlesex, and seven miles adjacent. Their jurisdiction, therefore, embraces the following places:—London, Westminster, the county of Middlesex; borough of Southwark, parishes of Brixton, Battersea, St. Mary Magdalen, Bermondsey, Christ Church, Clapham, St. Giles Camberwell, Dulwich, St. Paul Deptford, Graveney, Kew Green, Kennington, St. Mary Lambeth, Mortlake, Merton, Mitcham, St. Mary Newington, Norwood, Putney, Peckham, St. Mary Rotherhithe, Roehampton, Streatham, Stockwell, Tooting, Wimbledon, Wandsworth, and Walworth, in the county of Surrey; Blackheath, Charlton, Deptford, Greenwich, Lewisham, Lee, Southend, and Woolwich, in the county of Kent; and East Ham, Layton, Laytonstone, Low Layton, Plaistow, West Ham, Walthamstow, in the county of Essex; but does not embrace Bethlehem or County Asylums.

The Board has a treasurer and clerk (combined), and an assistant clerk, both of whom are upon oath. The commission has four statute meetings in the year, on the first Wednesday in November, February, May, and July; and five constitute a quorum, two not being physicians; but five commissioners (two not being physicians) can call a meeting at any time. They are bound to visit every asylum at least once a quarter, and may go as often as they please; and they see and examine *every patient*, and tick off their names in proper books kept for the purpose; and not less than three commissioners, one not being a physician, must constitute the visitation. Of course, the owners of asylums never know on what day they will be visited, so that they are always taken unprepared; and as the commissioners never grant a license to any house without being in possession of a ground-plan, and sections of the buildings, there cannot be any places of concealment in which a member of society might be immured for guilty objects. If the commissioners think any patient sufficiently recovered to admit of being discharged, and the relatives of the party, or the parish officers, in the case of a pauper, refuse to take the patient out, the individual is visited three several times, at certain intervals, and then set free by order of the commission. The commissioners can also visit the asylums by night, upon information, upon oath, of mal-practices. On going through an asylum, either by day or night, the commissioners are required to enter in a book, kept by the licensed proprietor, according to a prescribed form, a minute of the result of their inquiries on the state and condition of the house, as to the care of the patients, religious aid, employment, amusement, and such other particulars of the house and patients visited as they may think deserving of notice; and they must transmit a copy of such minute to the clerk of the commission, stating the length of time occupied, to regulate the fees of the medical and legal commissioners employed. They inspect narrowly, also, the medical weekly journal directed to be kept in each house, and attest it by their signatures.

With respect to persons keeping houses for the reception of insane patients, the following commissions or omissions render them subject to the *penalty of a misdemeanor*:—

Omitting to give a full and complete plan of the whole house, or of additions or alterations.

Keeping a house for receiving two or more insane persons without a license.

Receiving patients without an order and certificate, knowingly and wilfully.

Not making an entry of the person bringing a patient.

Signing a certificate with the intention to deceive.

Signing a certificate, being father, son, brother, partner, or part-proprietor, or the regular professional attendant of the house.

Receiving a pauper patient without an order and certificate.

Neglecting to transmit the order and certificate to the clerk of the commissioners, or visiting the commissioners within two clear days.

Neglecting to report the death or removal of a patient.

Concealing rooms or patients from the sight, knowledge, or inspection of the visiting commissioners.

Persons also are guilty of a misdemeanor, who not being guardians, or relatives, or "committee," receive *one* insane patient without an order and certificate.

They are also guilty of a misdemeanor in case they do not make a private return of such patient within twelve months.

These regulations are sufficiently stringent and minute to insure justice to the patient, order and system in a house, and punishment for neglect; and the precautions taken with respect to the admission of patients are equally characterised by humane considerations for the state of the afflicted and the liberty of the subject.

The order or certificate for the reception of a patient into an asylum must be of a prescribed form; the christian name, surname, and abode of the patient, and of the persons by whose authority the patient was sent, or other circumstances of connexion, must be stated; the name, age, place of residence, and occupation of the patient; whether he had ever been confined in any other asylum; whether lunatic under a commission in Chancery; and, if the certificate be not signed by *two* medical practitioners, the special circumstances why it was not so attested must be stated. Copies of the order given with the patient must be transmitted within two days to the clerk of the commissioners. All patients must be entered in a register. The order for the reception of pauper lunatics is slightly different. To this unhappy and unprotected portion of society, the commission is of more importance than to any other class of patients whatsoever. When once they get shut up in a madhouse, it is indeed difficult for them to regain their liberty.

The commissioners are very rigid in exacting the most minute conformity to the regulations respecting the certificates upon which keepers of lunatic asylums can receive private patients. The supposed lunatic must be examined on the same day by two medical practitioners; but they must make their examinations individually and separately, and then certify that they deem the patient a proper person to be confined as a lunatic; nor can the certificate be dated more than seven days

previous to the reception of any lunatic into an asylum. In the case of pauper lunatics, they may be put into asylums with fewer forms and restrictions. In the case of criminal lunatics confined in the asylums under the commission, the commissioners have not power to release, but merely to examine and report to the Secretary of State. Every licensed house containing one hundred patients must have a *resident* medical man. Three commissioners (one not being a physician) have the power to summon before them any person to testify upon oath or affirmation, to the truth of such matters as they think it necessary to enquire into, connected with the carrying into effect the objects contemplated by the Act; and parties convicted before one justice of the peace of refusal to obey summons are subject to a penalty not exceeding 50*l.* nor less than 10*l.*

Proprietors of asylums pay fees for the annual renewal of their license; and the expenses of the commission beyond the receipts from this source are charged on the Contingency Fund of the Home Office.

The feelings of families are as much respected as possible, and the conditional oath of secrecy taken by the commissioners ensures this object. Nevertheless, any party desirous of ascertaining whether any particular person be confined in any of the asylums under the commission, can, upon the order of one commissioner, go to the clerk of the commission, who, upon the payment of a fee of 7*s.*, is bound to search the registers for the preceding twelvemonths, and give the required information, naming the house, location, &c., and, if required, to supply a copy of the order or certificate upon which a particular lunatic was confined.

The Act of Parliament establishing the Lunacy Commission applies, in its details, to all England, and beyond the jurisdiction of the commission: for the practical working of the Act, the justices in county sessions supply the place of the commissioners, the clerk of the peace supplies the place of the clerk of the commissioners, and the expenses fall upon the county rate instead of the Treasury. The clerk of the peace is subject to a penalty of 5*l.* in case he does not, within 21 days after the annual appointment of visitors to asylums in the county, by the justices in county sessions assembled, make a return of such visitors to the clerk of the Metropolitan Commissioners in Lunacy, who is to register the same. The clerk of the peace is also bound to prepare and transmit annually in the month of June, to the clerk of the metropolitan commissioners, a complete transcript of the minutes of the county visitors to the several asylums. These minutes are to be kept for the inspection of the metropolitan commissioners, the Secretary of State for the Home Department, or the Lord Chancellor.

The Metropolitan Commissioners in Lunacy are directed, in the month of June annually, to transmit to the Lord Chancellor a report of the state and condition of the several houses licensed by them, and also as to the care of the patients therein, and such other particulars as they shall think deserving of notice. It is from these returns that I am enabled to offer to the Statistical Society the statistics of the commission, which contain some valuable information with respect to the mortality of insane persons. The information is not so complete as might have been afforded, owing to an alteration in the original form

of the return after the first two years of the commission, which has disabled me from stating the number and per-centage proportion of the patients annually cured or relieved; and it is, therefore, not necessary to deduce any specific results from the column "Discharged" in the returns. The most ample means exist in the records of the commission for determining the age and previous occupations of the lunatics, with a view of ascertaining whether any particular time of life, or any one occupation more than another, be characterised by mental affections; but I have been utterly debarred from embarking in such a minute and laborious enquiry by the want of leisure; but the day may come when a paper on the statistics of the Lunacy Commission, more worthy than the present, may be presented to the notice of the Society.

Forty-two asylums have been under the supervision of the commission since its first establishment. Some slight changes have taken place, in the abandonment of two or three establishments, and the addition of others. The number in existence on the 30th of May 1839 was 34, the number of patients in which varied from 2 to above 300.

The total number of patients who have appeared on the books of the several asylums under the commission, since its establishment, exclusive of last year, is 7,460, comprising 1,817 male paupers and 2,098 female paupers, 1,994 male private patients, and 1,551 female private patients; the gradually increasing confidence of the public being manifested by the increase of the patients in the asylums from more than 1,400 in 1832-3 to more than 1,700 in 1838-9. Of the above number of 7,460 lunatics, 4,021 have been discharged or removed, between the 31st of August 1832 and 31st of May 1839, viz., 917 male paupers, and 1,088 female paupers, 1,128 male private patients, and 888 female private patients. Unfortunately, with the exception of the first two years, the forms of the returns do not distinguish amongst the discharged, the cured, relieved, or removed (uncured) by relatives or friends; no satisfactory deduction, therefore, can be obtained of the chances of recovery of insane persons. With regard, however, to the annual proportion of discharges, it may be stated that 25 per cent. of the male, and 23 per cent. of the female, paupers, with 24 per cent of the male, and 22 per cent. of the female, private patients, were annually discharged, the private patients being in each case 1 per cent. less than the paupers, and the females in each case 2 per cent. less than the males. It is satisfactory to be able to state that the proportion has very materially increased of late years. On the average of the two years 1832-3 and 1833-4, the discharges, both of paupers and private patients, amounted to 21 per cent.; in 1838-9, the discharges of the former had increased to 28 per cent., and of the latter to 31 per cent.

During the two years in which the state of the patients at the time of discharge was noticed the annual per-centage proportions were as follows:—The proportion discharged cured to the number under treatment was, of male paupers, 7·29 per cent., of female paupers, 8·06 per cent.; of male private patients, 7·13 per cent., and of females of the same class, 5·30 per cent. The proportion discharged relieved was, of male paupers, 5·73, and of female paupers, 6·04 per cent.; of male private patients, 8·36, and of females, 8·59 per cent. The proportion discharged as incurable (no notice is taken, or at least no

column is given, of discharges for reasons unconnected with the patients' state of mind,) was, of pauper males, 5·60, and of females, 8·52 per cent.; of private male patients, 6·72, and of females, 6·95 per cent. We may venture to hope, although there is no evidence upon this point, that, if the returns had been continued in the same form, they would have shewn that a considerable proportion of the increase in the discharges previously noticed was caused by an increase in the number of cases cured and relieved.

The admissions for 6 years, between the 31st of May 1833 and 31st of May 1839, were 5,386, and the average annual number of patients under treatment on the 31st of May, for seven years, was 1,611; namely, 313 male paupers, 449 female paupers, 446 male private patients, and 402 female private patients. It is worthy of notice and of further enquiry that the number of female paupers exceeds that of the males by one-third, while the number of female private patients falls short of that of the males by a ninth.

I come now to the most marked, and, I regret to say, the most melancholy feature of the statistics of the commission—the per-centage of deaths in the different sexes, and in the two great classes into which the patients are divided—pauper and private. The annual per-centage proportion of deaths for the whole period among the whole number of patients is 10·13; but this average exhibits a wide discrepancy when the per-centage upon the paupers and private patients is taken separately. It is then found that the deaths of paupers amount to 12·76 per cent., and of private patients to only 7·56. And, if the males be separated from the females, it will be found that the male pauper deaths average 15·52, and the females 10·61 per cent.; while the private male patients average 8·73, and female private patients only 6·18 per cent. The same differences run through the several years with pretty general uniformity, although the male pauper deaths, in the year 1836-7, amounted to 17·54, while in 1833-4 they did not exceed 12·16, and in 1838-9 amounted to 12·29 per cent. The highest annual average of the female pauper deaths was 12·90 in 1836-7, and the lowest was 6·62 in 1833-4, but 11·34 in 1839, when the proportion of male pauper deaths was 12·29. The average proportion of pauper deaths of both sexes to the total number of pauper patients is 12·76 per cent. Amongst the deaths of private male patients the highest annual average was 11·56 in 1836-7, and the lowest 7·22 in 1835-6; 1833-4 and 1838-9 being almost equally low. Amongst the private female patients the highest annual average was 7·65 per cent., in 1832-3, and the lowest, 4·70 per cent., was in 1835-6. In 1838-9 the average only amounted to 5·21 per cent. The year 1836-7 was one in which I believe influenza prevailed, and in which the winter was unusually severe: it proved proportionably fatal to both classes of patients.

The average of all the years produces the following results that deaths amongst males in both classes of patients is considerably greater than amongst females, namely, 11·73 per cent., while the deaths of females is only 8·49 per cent.; but that the deaths of paupers, male and female, exceed that of private patients in the relative proportion of 12·76 and 7·56, namely, 68 per cent.; therefore, for every hundred paupers dying only 59¼ private patients die. This fearful discrepancy is a matter for serious reflection, and demands careful investigation.

I now come to a part of my subject which is of some interest in a medical point of view, first, to discover the effect of accumulation of large numbers of lunatics under one roof; and, secondly, as different modes of treatment are pursued in different asylums, to observe the comparative success of the different plans. But here again the only test is the comparative number of deaths. By this guide it is observed, from the annual average, and the general average for the whole seven years of each of the five principal houses receiving paupers, and of the five chief houses not receiving paupers, that not only is the average of deaths excessive amongst the paupers, but it is also excessive, though to a somewhat less degree, among the private patients in the houses receiving paupers; whilst in the establishments not receiving paupers, and with limited numbers, the per-centage of deaths is about one-half less than that in the pauper establishments; but the deaths of males preponderate even in the private houses, with the exception of the house No. XXVIII., where the deaths of females exceed those of the males in a corresponding establishment belonging to the same proprietor. There are some differences in the annual and general averages of the five principal private asylums, varying from 7·19 per cent. among the males of one asylum to only 3·81 per cent. among the males of another, and from 6·98 per cent. among the females of one house to 2·74 per cent. among the same sex in another; nevertheless, very curiously, the average per-centage mortality of the whole five houses for seven years was 5·22 per cent. among the males, and 5·29 among the females—an unexpected and merely accidental approach to equality; for in the other private asylums, as in the houses receiving paupers, there is a considerable excess in the mortality among males. The house No. III., conducted on a particular system, lost 9·4 per cent. of the males, and only 2·8 per cent. of the females, during the seven years. The average loss of all the other private asylums was 6·76 per cent. among males, and 4·98 per cent. among females. But I must refer the Society to the ample Tables accompanying the paper, which will enable any member to investigate minutely the details.

In the present paper, in deference to the judgment of others, it has been thought right to distinguish the houses by numbers in Roman letters, instead of giving the names of the owners. The same number remains attached to each house throughout the series of Tables.

TABLE I. *Abstract of the Annual Returns of Patients in the Houses Licensed by the Metropolitan Commissioners in Lunacy for the Reception of Insane Persons; shewing the Number under Treatment, and the Number Discharged and Died, with the Proportion of Deaths to Patients, in each Year from* 1833 (*ended* 31*st May*) *to* 1839.

Years ended 31st May.	Existing at the Commencement of the Year.						Admitted in each Year.						Total under Treatment in the Year.					
	Paupers.			Others.			Paupers.			Others.			Paupers.			Others.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Fem.	Total.	Males.	Fem.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1833	..	..	..	..	..	..	..	..	..	..	..	..	398	578	976	575	523	1,098
1834	252	381	633	405	397	802	118	132	250	239	174	413	370	513	883	644	571	1,215
1835	260	369	629	439	397	836	221	241	462	200	159	359	481	610	1,091	639	556	1,195
1836	303	433	736	434	394	828	330	217	547	244	159	403	633	650	1,283	678	553	1,231
1837	383	435	818	475	399	874	261	332	593	243	177	420	644	767	1,411	718	576	1,294
1838	355	482	837	432	387	819	202	337	539	265	187	452	557	819	1,376	697	574	1,271
1839	315	541	856	479	423	902	287	261	548	228	172	400	602	802	1,404	707	595	1,302
1840	328	507	835	459	419	878	..	..	..	..	..	..	..	..	..	..	..	..
Total	2,196	3,148	5,344	3,123	2,816	5,939	1,419	1,520	2,939	1,419	1,028	2,447	3,685	4,739	8,424	4,658	3,948	8,606
Average	313	449	763	446	402	848	236	253	489	236	171	407	526	677	1,203	665	564	1,229
Per-centage Proportion of Males to Females	..	..	..	..	..	..	48·2	51·8	100·	58·	42·	100·	43·7	56·3	100·	54·1	45·9	100·

Years ended 31st May.	Discharged in each Year.						Died in each Year.						Per-centage of Deaths to Total Number of each Class under Treatment.					
	Paupers.			Others.			Paupers.			Others.			Paupers.			Others.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Fem.	Total.	Males.	Fem.	Total.
1833	78	137	215	116	86	202	68	60	128	54	40	94	17·1	10·4	13·1	9·4	7·6	8·5
1834	65	110	175	155	138	293	45	34	79	50	36	86	12·1	6·6	8·9	7·7	6·3	7·
1835	95	127	222	153	129	282	83	50	133	52	33	85	17·2	8·2	12·1	8·1	5·9	7·1
1836	149	148	297	154	128	282	101	67	168	49	26	75	15·9	10·3	13·1	7·2	4·7	6·
1837	176	186	362	203	149	352	113	99	212	83	40	123	17·5	12·9	15·	11·5	6·9	9·5
1838	154	176	330	155	113	268	88	102	190	63	38	101	15·8	12·6	13·8	9·	6·6	7·9
1839	200	204	404	192	145	337	74	91	165	56	31	87	12·2	11·3	11·7	7·9	5·2	6·6
1840	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	917	1,088	2,005	1,128	888	2,016	572	503	1,075	407	244	651	..	..	..	..	..	..
Average	131	155	286	161	127	288	81	72	153	58	35	93	15·5	10·6	12·7	8·7	6·1	7·5
Per-centage Proportion of Males to Females	45·7	54·3	100·	55·9	44·1	100·	53·2	46·8	100·	62·5	37·5	100·	..	..	..	..	..	..

TABLE II. *Aggregate of the Annual Summaries of Patients and Deaths, with the Average Annual Per-centage Proportion of Deaths to Patients, distinguishing Pauper from Private Patients, and Males from Females, in each of the Principal Houses Licensed by the Metropolitan Commissioners in Lunacy, during the Seven Years from* 1832-3 *to* 1838-9.

Houses.	Patients.						Deaths.						Per-Centage Annual Proportion of Deaths to Patients.					
	Paupers.			Others.			Paupers.			Others.			Paupers.			Others.		
Receiving Paupers.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
II. . . .	199	212	411	90	119	209	34	21	55	12	11	23	17·1	9·9	13·3	13·3	9·2	11·10
XVIII. . .	888	1221	2109	259	281	540	129	121	250	34	25	59	14·5	9·9	11·9	13·1	8·9	10· 9
XXXII.	1537	..	3491	1219	..	2097	220	..	420	138	..	202	14·3	..	12·	11·3	..	9· 6
XXXIII.	..	1954		..	878		..	200		..	64		..	10·2		..	7·3	
XXXV.. .	1048	1346	2394	459	487	946	186	161	347	65	31	96	17·7	11·9	14·5	14·1	6·3	10· 1
XII. . . .	13	6	19	24	32	56	3	..	3	3	4	7	23·	Nil.	15·8	12·5	12·5	12· 5
Total Receiving Paupers .	3685	4739	8424	2051	1797	3848	572	503	1075	252	135	387	15·5	10·6	12·7	12·4	7·5	10·
Private Houses.																		
IX. . . .	..	..	..	316	215	531	..	..	..	22	14	36	..	..	..	6·9	6·5	6· 7
XVII. . .	..	..	..	153	144	297	..	..	..	11	4	15	..	..	..	7·1	2·8	5·
XXVII.	..	..	..	293	..	479	..	..	..	14	..	27	..	..	..	4·7	..	5· 6
XXVIII.				..	186					..	13					..	6·9	
XXXIV. .	..	..	..	264	139	403	..	..	..	14	7	21	..	..	..	5·3	5·	5· 2
XXXVI. .	..	..	..	524	73	597	..	..	..	20	2	22	..	..	..	3·8	2·7	3· 6
Total . .	..	..	..	1550	757	2307	..	..	..	81	40	121	..	..	..	5·2	5·2	5· 2
III. . . .	..	..	..	96	71	167	..	..	..	9	2	11	..	..	..	9·4	2·8	6· 6
All other Houses	..	..	..	961	1343	2304	..	..	..	65	67	132	..	..	..	6·7	4·9	5· 7
Total . .	..	..	..	2607	2171	4778	..	..	..	155	109	264	..	..	..	5·9	5·	5· 5

TABLE III.—*Annual Summaries of Patients and Deaths, in all the Houses Licensed to receive Pauper Patients, in each Year from* 1832-3 *to* 1838-9.

Houses.	Years ended 31st May,	Patients.					Deaths.				
		Paupers.		Others.		Total.	Paupers.		Others.		Total.
		M.	F.	M.	F.	M.&F.	M.	F.	M.	F.	M.&F.
II.	1833	50	50	17	31	148	9	11	4	6	30
	1834	35	44	17	31	127	4	1	3	1	9
	1835	36	42	16	22	116	8	2	..	1	11
	1836	37	36	23	18	114	2	2	3	..	7
	1837	41	40	17	17	115	11	5	2	3	21
	Total	199	212	90	119	620	34	21	12	11	78
XVIII.	1833	86	154	35	28	303	25	19	8	2	54
	1834	84	142	39	43	308	10	13	5	3	31
	1835	116	163	33	49	361	20	14	6	7	47
	1836	194	141	48	53	436	25	16	4	4	49
	1837	128	219	37	40	424	20	32	3	3	58
	1838	129	213	31	35	408	17	12	..	3	32
	1839	151	189	36	33	409	12	15	8	3	38
	Total	888	1221	259	281	2649	129	121	34	25	309
XXXII. and XXXIII.	1833	176	253	169	120	718	22	13	16	16	67
	1834	162	204	160	127	653	22	11	13	10	56
	1835	205	249	169	107	730	38	24	16	4	82
	1836	239	296	167	101	803	38	31	18	6	93
	1837	277	274	166	116	833	45	30	26	6	107
	1838	233	331	196	149	909	29	47	22	10	108
	1839	245	347	192	158	942	26	44	27	12	109
	Total	1537	1954	1219	878	5588	220	200	138	64	622
XXXV.	1833	86	121	49	70	326	12	17	7	5	41
	1834	89	123	55	75	342	9	9	7	5	30
	1835	124	156	60	72	412	17	10	10	4	41
	1836	163	177	63	61	464	36	18	6	..	60
	1837	194	233	87	65	579	37	32	17	11	97
	1838	190	272	74	70	606	39	43	11	3	96
	1839	202	264	71	74	611	36	32	7	3	78
	Total	1048	1346	459	487	3340	186	161	65	31	443
XII.	1837	4	1	7	11	23	..	..	1	1	2
	1838	5	3	9	12	29	3	..	..	2	5
	1839	4	2	8	9	23	..	..	2	1	3
	Total	13	6	24	32	75	3	..	3	4	10

TABLE IV.—*Annual Summaries of Patients and Deaths in each of the Principal Houses Licensed to receive Private Patients in each Year from* 1832-3 *to* 1838-9.

Years ended 31st May,	No. IX.						No. XVII.						Nos. XXVII. and XXVIII.					
	Patients.			Deaths.			Patients.			Deaths.			Patients.			Deaths.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
1833	34	19	53	3	..	3	22	16	38	..	1	1	42	32	74	2	3	5
1834	44	30	74	4	1	5	27	19	46	2	1	3	34	26	60	1	1	2
1835	44	31	75	4	1	5	21	19	40	5	..	5	39	23	62	..	1	1
1836	46	32	78	1	2	3	19	19	38	1	..	1	44	25	69	3	4	7
1837	48	32	80	7	3	10	18	22	40	1	..	1	47	30	77	4	1	5
1838	58	33	91	2	4	6	22	25	47	2	..	2	40	22	62	3	2	5
1839	42	38	80	1	3	4	24	24	48	..	2	2	47	28	75	1	1	2
Total	316	215	531	22	14	36	153	144	297	11	4	15	293	186	479	14	13	27

Years.	No. XXXIV.						No. XXXVI.						No. III.					
	Patients.			Deaths.			Patients.			Deaths.			Patients.			Deaths.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
1833	39	22	61	2	1	3	39	23	62	2	1	3	11	8	19	..	..	..
1834	42	23	65	1	1	2	79	9	88	2	..	2	13	10	23	1	..	1
1835	38	20	58	3	3	6	79	9	88	3	..	3	13	9	22	..	..	..
1836	35	20	55	2	2	4	79	10	89	4	1	5	14	11	25	..	1	1
1837	38	18	56	4	..	4	79	9	88	2	..	2	17	12	29	4	..	4
1838	31	18	49	2	..	2	84	7	91	4	..	4	16	10	26	3	1	4
1839	41	18	59	..	..	..	85	6	91	3	..	3	12	11	23	1	..	1
Total	264	139	403	14	7	21	524	73	597	20	2	22	96	71	167	9	2	11

TABLE V.—*Annual Return of the Number of Houses Licensed by the Metropolitan Commissioners in Lunacy, for the Reception of Insane Persons, stating the Number of Patients, Pauper and Private, Male and Female, in each Establishment, with the Number of each Class Discharged or Deceased, from the 11th August* 1832 *to the 30th June* 1833.

No. of House.	Patients under Treatment during the Year.			Cured.		Relieved.		Discharged Incurable.		Died.		Total Discharged and Died.	Total Remaining on 30th June 1833.
	Paupers and Others.		Total.	Paupers and Others.		Paupers and Others.		Paupers and Others.		Paupers and Others.			
	M.	F.	M. & F.	M.	F.	M.	F.	M.	F.	M.	F.		
I.	..	29	29	..	1	..	..	..	..	..	1	2	27
II. Paupers	50	50	148	7	5	10	5	3	3	9	11	82	66
II. Others	17	31		..	1	2	4	1	11	4	6		
III.	11	8	19	1	..	2	..	2	..	..	..	5	14
IV.	15	14	29	..	2	1	..	..	..	1	..	4	25
V.	13	4	17	1	1	2	1	..	..	3	..	8	9
VI.	2	..	2	..	..	..	..	..	..	..	..	..	2
VII.	17	..	17	1	..	1	..	2	..	1	..	5	12
VIII.	..	2	2	..	..	..	..	..	..	..	..	..	2
IX.	34	19	53	2	2	2	1	..	..	3	..	10	43
X.	..	6	6	..	..	..	2	..	..	..	1	3	3
XI.	1	1	2	..	1	..	..	..	..	..	..	1	1
XII.	10	7	17	1	..	1	..	2	1	1	1	7	10
XIII.	2	..	2	..	..	..	..	..	..	..	..	..	2
XIV.	1	1	2	..	..	..	..	..	..	..	..	..	2
XV.	2	3	5	1	..	..	..	..	..	..	..	1	4
XVI.	3	3	6	..	..	1	1	..	..	..	..	2	4
XVII.	22	16	38	..	..	1	..	..	..	..	1	2	36
XVIII. P	86	154	303	5	8	2	9	2	3	25	19	102	201
XVIII. O	35	28		1	2	4	5	4	3	8	2		
XIX.	..	18	18	..	2	..	2	..	..	..	1	5	13
XX.	14	..	14	..	..	1	..	3	..	1	..	5	9
XXI.	10	11	21	3	1	1	1	2	..	1	1	10	11
XXII.	..	5	5	..	..	..	..	..	..	..	..	..	5
XXIII.	..	3	3	..	..	..	..	..	..	..	..	..	3
XXIV.	1	..	1	..	..	..	..	..	..	..	..	..	1
XXV.	9	8	17	..	..	..	1	..	1	1	..	3	14
XXVI.	..	4	4	..	..	..	..	..	..	..	..	..	4
XXVII.	42	..	42	7	..	3	..	6	..	2	..	18	24
XXVIII.	..	32	32	..	2	..	4	..	2	..	3	11	21
XXIX.	14	3	17	1	..	3	..	1	..	..	..	5	12
XXX.	..	20	20	..	..	..	1	..	2	..	..	3	17
XXXI.	4	5	9	2	..	..	1	..	..	1	..	4	5
XXXII. P	176	..	345	10	..	7	..	14	..	22	..	100	245
XXXII. O	169	..		16	..	7	..	8	..	16	..		
XXXIII. P	..	253	373	..	22	..	31	..	25	..	13	119	254
XXXIII. O	..	120		..	2	..	6	..	4	..	16		
XXXIV.	39	22	61	1	1	2	..	1	..	2	1	8	53
XXXV. P	86	121	326	1	2	3	4	14	20	12	17	106	220
XXXV. O	49	70		1	4	3	3	4	6	7	5		
XXXVI.	39	23	62	1	1	2	..	1	..	2	1	8	54
XXXVII.	..	7	7	..	..	..	..	..	..	..	..	..	7
Total P	398	578	2074	23	37	22	49	33	51	68	60	639	1435
Total O	575	523		40	23	39	33	37	30	54	40		

A Similar Return for the Year ended 30th June 1834.

No. of House.	Patients under Treatment during the Year.			Cured.		Relieved.		Discharged Incurable.		Died.		Total Discharged and Died.	Total Remaining.
	Paupers and Others.		Total.	Paupers and Others.		Paupers and Others.		Paupers and Others.		Paupers and Others.			
	M.	F.	M.&F.	M.	F.	M.	F.	M.	F.	M.	F.		
I.	..	28	28	..	..	..	2	..	..	..	2	4	24
II. Paupers	35	44	127	2	9	3	4	2	2	4	1	53	74
II. Others	17	31		1	4	4	6	4	3	3	1		
III.	13	10	23	1	..	3	3	1	1	1	..	10	13
IV.	18	16	34	2	1	1	1	2	..	2	2	11	23
V.	11	4	15	2	..	2	..	2	1	..	..	7	8
VI.	5	..	5	..	..	1	..	..	..	1	..	2	3
VII.	14	1	15	1	..	..	..	2	..	1	1	5	10
VIII.	..	2	2	..	..	..	..	..	..	..	1	1	1
IX.	44	30	74	4	4	6	4	2	..	4	1	25	49
X.	..	4	4	..	..	..	1	..	..	..	..	1	3
XI.	1	..	1	..	..	..	..	..	..	..	..	..	1
XII.	12	6	18	1	..	1	..	3	..	1	1	7	11
XIII.	2	..	2	..	..	..	..	..	..	..	..	..	2
XIV.	1	2	3	..	..	..	..	..	..	..	..	..	3
XV.	1	3	4	..	..	1	..	..	..	..	..	1	3
XVI.	2	2	4	..	..	..	..	..	..	..	1	1	3
XVII.	27	19	46	..	..	3	..	1	2	2	1	9	37
XVIII. P	84	142	308	8	14	4	5	..	4	10	13	91	217
XVIII. O	39	43		3	1	7	5	5	4	5	3		
XIX.	..	19	19	..	1	..	5	..	..	..	2	8	11
XX.	20	..	20	1	..	7	..	..	..	3	..	11	9
XXI.	17	16	33	1	1	6	..	1	2	1	1	13	20
XXII.	..	5	5	..	..	..	..	..	1	..	..	1	4
XXIII.	..	5	5	..	..	..	..	..	..	..	1	1	4
XXIV.	2	..	2	..	..	..	..	..	..	..	..	..	2
XXV.	11	12	23	1	3	..	2	2	..	..	..	8	15
XXVI.	..	4	4	..	..	..	1	..	..	..	..	1	3
XXVII.	34	..	34	2	..	2	..	2	..	1	..	7	27
XXVIII.	..	26	26	..	..	..	5	..	2	..	1	8	18
XXIX.	12	4	16	2	..	1	1	..	..	1	..	5	11
XXX.	..	23	23	..	..	..	3	..	..	..	..	3	20
XXXI.	5	8	13	2	..	..	4	..	..	1	..	7	6
XXXII. P	162	..	322	8	..	9	..	3	..	22	..	85	237
XXXII. O	160	..		10	..	9	..	11	..	13	..		
XXXIII. P	..	204	331	..	15	..	4	..	22	..	11	101	230
XXXIII. O	..	127		..	17	..	5	..	17	..	10		
XXXIV.	42	23	65	4	..	2	..	1	2	1	1	11	54
XXXV. P	89	123	342	15	13	6	4	5	14	9	9	122	220
XXXV. O	55	75		6	3	5	12	5	4	7	5		
XXXVI.	79	9	88	3	..	2	1	1	1	2	..	10	78
XXXVII.	..	10	10	..	..	..	..	..	..	..	1	1	9
XXXVIII.	..	4	4	..	..	..	..	..	2	..	..	2	2
Total . P	370	513	2098	33	51	22	17	10	42	45	34	633	1465
Total . O	644	571		47	35	63	61	45	42	50	36		

A Similar Return for the Year ended 31st May 1835.

No. of House.	Patients under Treatment during the Year.			Discharged.		Died.		Total Discharged and Died.		Total Remaining.		
	Paupers and Others.		Total.	Paupers and Others.		Paupers and Others.		Paupers and Others.		Paupers and Others.		
	M.	F.	M.& F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
I.	..	30	30	..	7	..	..	..	7	..	23	23
II. Paupers	36	42	116	7	9	8	2	15	11	31	44	75
II. Others	16	22		6	8	..	1	6	9			
III.	13	9	22	4	2	..	..	4	2	9	7	16
IV.	14	21	35	2	4	..	1	2	5	12	16	28
V.	6	8	14	1	3	..	1	1	4	5	4	9
VI.	8	..	8	4	..	..	..	4	..	4	..	4
VII.	13	1	14	4	..	..	1	4	1	9	..	9
VIII.	..	1	1	..	..	..	..	..	..	..	1	1
IX.	44	31	75	8	8	4	1	12	9	32	22	54
X.	..	4	4	..	..	..	..	..	..	..	4	4
XI.	1	..	1	..	..	..	..	..	..	1	..	1
XII.	12	6	18	3	2	..	..	3	2	9	4	13
XIII.	2	..	2	..	..	..	..	..	..	2	..	2
XIV.	1	2	3	..	..	..	..	..	..	1	2	3
XV.	1	2	3	..	..	..	..	..	..	1	2	3
XVI.	2	5	7	..	..	..	1	..	1	2	4	6
XVII.	21	19	40	2	3	5	..	7	3	14	16	30
XVIII. P	116	163	361	15	13	20	14	35	27	93	163	256
XVIII. O	33	49		15	15	6	7	21	22			
XIX.	..	23	23	.	5	..	2	..	7	..	16	16
XX.	15	..	15	2	..	2	..	4	..	11	..	11
XXI.	15	20	35	9	5	..	4	9	9	6	11	17
XXII.	..	5	5	..	1	..	1	..	2	..	3	3
XXIII.	..	4	4	..	..	..	..	..	..	..	4	4
XXIV.	2	..	2	..	..	1	..	1	..	1	..	1
XXV.	14	10	24	2	5	1	..	3	5	11	5	16
XXVI.	..	3	3	..	..	..	..	..	..	..	3	3
XXVII.	39	..	39	13	..	..	..	13	..	26	..	26
XXVIII.	..	23	23	..	2	..	1	..	3	..	20	20
XXIX.	11	4	15	4	1	1	..	5	1	6	3	9
XXX.	..	22	22	..	6	..	1	..	7	..	15	15
XXXI.	10	8	18	4	3	..	..	4	3	6	5	11
XXXII. P	205	..	374	46	..	38	..	84	..	232	..	232
XXXII. O	169	..		42	..	16	..	58	..			
XXXIII. P	..	249	356	..	57	..	24	..	81	..	245	245
XXXIII. O	..	107		..	26	..	4	..	30			
XXXIV.	38	20	58	4	1	3	3	7	4	31	16	47
XXXV. P	124	156	412	27	48	17	10	44	58	111	145	256
XXXV. O	60	72		19	21	10	4	29	25			
XXXVI.	79	9	88	5	..	3	..	8	..	71	9	80
XXXVII.	..	9	9	..	1	..	..	..	1	..	8	8
XXXVIII.	..	7	7	..	..	..	..	..	..	..	7	7
Total P	181	610	2256	95	127	83	50	178	177	737	827	1564
Total O	639	556		153	129	52	33	205	162			

A Similar Return for the Year ended 31st May 1836.

No. of House.		Patients under Treatment during the Year.			Discharged.		Died.		Total Discharged and Died.		Total Remaining.		
		Paupers and Others.		Total.	Paupers and Others.		Paupers and Others.		Paupers and Others.		Paupers and Others.		
		M.	F.	M.& F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
I.		..	29	29	..	4	..	1	..	5	..	24	24
II.	Paupers	37	36	114	5	9	2	2	7	11	30	25	77
	Others	23	18		10	6	3	..	13	6	10	12	
III.		14	11	25	5	3	..	1	5	4	9	7	16
IV.		20	23	43	6	3	..	1	6	4	14	19	33
V.		10	11	21	3	3	..	..	3	3	7	8	15
VI.		10	2	12	2	..	2	..	4	..	6	2	8
VII.		15	..	15	3	..	1	..	4	..	11	..	11
VIII.		..	..	..	..	..	..	..	..	..	..	..	..
IX.		46	32	78	13	7	1	2	14	9	32	23	55
X.		..	4	4	..	..	..	..	..	..	..	4	4
XI.		..	..	..	..	..	..	..	..	..	..	..	..
XII.		6	10	16	..	4	..	1	..	5	6	5	11
XIII.		2	..	2	..	..	..	..	..	..	2	..	2
XIV.		1	1	2	..	..	..	..	..	..	1	1	2
XV.		2	3	5	..	2	..	..	..	2	2	1	3
XVI.		2	5	7	..	1	..	..	..	1	2	4	6
XVII.		19	19	38	3	3	1	..	4	3	15	16	31
XVIII.	Paupers	194	141	436	37	32	25	16	62	48	132	93	284
	Others	48	53		17	17	4	4	21	21	27	32	
XIX.		..	26	26	..	10	..	..	..	10	..	16	16
XX.		18	..	18	8	..	1	..	9	..	9	..	9
XXI.		16	20	36	4	5	2	1	6	6	10	14	24
XXII.		..	5	5	..	..	..	..	..	..	..	5	5
XXIII.		..	5	5	..	..	..	..	..	..	..	5	5
XXIV.		..	..	..	..	..	..	..	..	..	..	..	..
XXV.		15	6	21	1	1	..	..	1	1	14	5	19
XXVI.		..	3	3	..	..	..	..	..	..	..	3	3
XXVII.		44	..	44	13	..	3	..	16	..	28	..	28
XXVIII.		..	25	25	..	3	..	4	..	7	..	18	18
XXIX.		12	4	16	7	1	..	1	7	2	5	2	7
XXX.		..	19	19	..	4	..	..	..	4	..	15	15
XXXI.		11	6	17	1	1	1	1	2	2	9	4	13
XXXII.	Paupers	239	..	406	69	..	38	..	107	..	132	..	246
	Others	167	..		35	..	18	..	53	..	114	..	
XXXIII.	Paupers	..	296	397	..	65	..	31	..	96	..	200	274
	Others	..	101		..	21	..	6	..	27	..	74	
XXXIV.		35	20	55	2	1	2	2	4	3	31	17	48
XXXV.	Paupers	163	177	464	38	42	36	18	74	60	89	117	285
	Others	63	61		19	20	6	..	25	20	38	41	
XXXVI.		79	10	89	2	1	4	1	6	2	73	8	81
XXXVII.		..	11	11	..	3	..	..	..	3	..	8	8
XXXVIII.		..	10	10	..	4	..	..	..	4	..	6	6
Total	Paupers	633	650	2514	149	148	101	67	250	215	383	435	1692
	Others	678	553		154	128	49	26	203	154	475	399	

A Similar Return for the Year ended 31st May 1837.

No. of House.	Patients under Treatment during the Year.				Discharged.		Died.		Total Discharged and Died.		Total Remaining.		
	Paupers and Others.		Total.		Paupers and Others.		Paupers and Others.		Paupers and Others.		Paupers and Others.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
I.	..	25	..	25	..	3	..	3	..	6	..	19	19
II. Paupers	41	40	58	57	30	35	11	5	58	57	..	..	..
II. Others	17	17			15	14	2	3					
III.	17	12	17	12	6	4	4	..	10	4	7	8	15
IV.	25	27	25	27	7	5	..	1	7	6	18	21	39
V.	10	10	10	10	3	2	1	1	4	3	6	7	13
VI.	9	2	9	2	1	..	3	..	4	..	5	2	7
VII.	22	..	22	..	11	..	1	..	12	..	10	..	10
VIII.	..	..	..	..	..	..	..	..	..	..	..	..	..
IX.	48	32	48	32	12	10	7	3	19	13	29	19	48
X.	..	5	..	5	..	1	..	..	..	1	..	4	4
XI.	..	..	..	..	..	..	..	..	..	..	..	..	..
XII. P	4	1	11	12	..	1	..	..	1	3	10	9	19
XII. O	7	11			..	1	1	1					
XIII.	2	..	2	..	..	..	..	..	..	..	2	..	2
XIV.	2	1	2	1	1	1	..	..	1	1	1	..	1
XV.	2	1	2	1	1	..	..	1	1	1	1	..	1
XVI.	2	5	2	5	..	..	..	..	..	..	2	5	7
XVII.	18	22	18	22	1	6	1	..	2	6	16	16	32
XVIII. P	128	219	165	259	26	33	20	32	63	79	102	180	282
XVIII. O	37	40			14	11	3	3					
XIX.	..	23	..	23	..	7	..	2	..	9	..	14	14
XX.	16	..	16	..	2	..	3	..	5	..	11	..	11
XXI.	20	25	20	25	8	7	1	..	9	7	11	18	29
XXII.	..	4	..	4	..	1	..	..	..	1	..	3	3
XXIII.	..	7	..	7	..	2	..	..	..	2	..	5	5
XXIV.	..	..	..	..	..	..	..	..	..	..	..	..	..
XXV.	16	8	16	8	2	2	1	..	3	2	13	6	19
XXVI.	..	3	..	3	..	1	..	..	..	1	..	2	2
XXVII.	47	..	47	..	17	..	4	..	21	..	26	..	26
XXVIII.	..	30	..	30	..	11	..	1	..	12	..	18	18
XXIX.	9	4	9	4	2	..	2	..	4	..	5	4	9
XXX.	..	19	..	19	..	3	..	1	..	4	..	15	15
XXXI.	..	..	..	..	..	..	..	..	..	..	..	..	..
XXXII. P	277	..	443	..	72	..	45	..	191	..	252	..	252
XXXII. O	166	..			48	..	26	..					
XXXIII. P	..	274	..	390	..	72	..	30	..	133	..	257	257
XXXIII. O	..	116			..	25	..	6					
XXXIV.	38	18	38	18	7	2	4	..	11	2	27	16	43
XXXV. P	194	233	281	298	48	45	37	32	131	109	150	189	339
XXXV. O	87	65			29	21	17	11					
XXXVI.	79	9	79	9	6	2	2	..	8	2	71	7	78
XXXVII.	..	9	..	9	..	1	..	2	..	3	..	6	6
XXXVIII.	..	10	..	10	..	4	..	..	..	4	..	6	6
XXXIX.	8	11	8	11	2	..	..	1	2	1	6	10	16
XL.	14	5	14	5	8	2	..	..	8	2	6	3	9
Total P	614	767	1362	1343	176	186	113	99	575	474	787	869	1656
Total O	718	576			203	149	83	40					

A Similar Return for the Year ended 31*st May* 1838.

No. of House.	Patients under Treatment during the Year:				Discharged.		Died.		Total Discharged and Died.		Total Remaining.		
	Paupers and Others.		Total.		Paupers and Others.		Paupers and Others.		Paupers and Others.		Paupers and Others.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
I.	..	21	..	21	..	..	..	2	..	2	..	19	19
II.	..	..	..	..	..	..	..	..	..	..	..	..	..
III.	16	10	16	10	8	..	3	1	11	1	5	9	14
IV.	24	25	24	25	6	4	1	2	7	6	17	19	36
V.	8	10	8	10	2	4	..	..	2	4	6	6	12
VI.	7	2	7	2	1	..	1	..	2	..	5	2	7
VII.	13	1	13	1	3	..	2	..	5	..	8	1	9
VIII.	..	..	..	..	..	..	..	..	..	..	..	..	..
IX.	58	33	58	33	20	5	2	4	22	9	36	24	60
X.	..	4	..	4	..	1	..	..	..	1	..	3	3
XI.	..	..	..	..	..	..	..	..	..	..	..	..	..
XII. Pauper	5	3	14	15	..	2	3	..	6	7	8	8	16
XII. Others	9	12			3	3	..	2					
XIII.	2	..	2	..	..	..	..	..	..	..	2	..	2
XIV.	..	..	..	..	..	..	..	..	..	..	..	..	..
XV.	..	3	..	3	..	..	..	..	..	..	..	3	3
XVI.	2	6	2	6	..	..	1	2	1	2	1	4	5
XVII.	22	25	22	25	4	5	2	..	6	5	16	20	36
XVIII. P	129	213	160	248	29	36	17	12	57	53	103	195	298
XVIII. O	31	35			11	2	..	3					
XIX.	..	19	..	19	..	2	..	1	..	3	..	16	16
XX.	15	..	15	..	1	..	4	..	5	..	10	..	10
XXI.	23	32	23	32	9	12	2	2	11	14	12	18	30
XXII.	..	..	..	..	..	..	..	..	..	..	..	..	..
XXIII.	..	5	..	5	..	1	..	..	..	1	..	4	4
XXIV.	..	..	..	..	..	..	..	..	..	..	..	..	..
XXV.	13	6	13	6	1	1	1	..	2	1	11	5	16
XXVI.	..	..	..	..	..	..	..	..	..	..	..	..	..
XXVII.	40	..	40	..	9	..	3	..	12	..	28	..	28
XXVIII.	..	22	..	22	..	3	..	2	..	5	..	17	17
XXIX.	13	6	13	6	2	..	1	..	3	..	10	6	16
XXX.	..	20	..	20	..	2	..	2	..	4	..	16	16
XXXI.	..	..	..	..	..	..	..	..	..	..	..	..	..
XXXII. P	233	..	429	..	75	..	29	..	168	..	261	..	261
XXXII. O	196	..			42	..	22	..					
XXXIII. P	..	331	..	480	..	71	..	47	..	163	..	317	317
XXXIII. O	..	149			..	35	..	10					
XXXIV.	31	18	31	18	2	1	2	..	4	1	27	17	44
XXXV. P	190	272	264	342	50	67	39	43	124	136	140	206	346
XXXV. O	74	70			24	23	11	3					
XXXVI.	84	7	84	7	3	1	4	..	7	1	77	6	83
XXXVII.	..	8	..	8	..	1	..	1	..	2	..	6	6
XXXVIII.	..	8	..	8	..	4	..	..	..	4	..	4	4
XXXIX.	7	13	7	13	1	1	1	1	2	2	5	11	16
XL.	9	4	9	4	3	2	..	..	3	2	6	2	8
Total P	557	819	1254	1393	151	176	88	102	460	429	794	964	1758
Total O	697	574			155	113	63	38					

A Similar Return for the Year ended 31st May 1839.

No. of House.	Patients under Treatment during the Year.				Discharged.		Died.		Total Discharged and Died.		Total Remaining.		
	Paupers and Others.		Total.		Paupers and Others.		Paupers and Others.		Paupers and Others.		Paupers and Others.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
I.	..	24	..	24	..	4	..	..	..	4	..	20	20
II.	..	..	..	..	..	..	..	..	..	..	..	..	..
III.	12	11	12	11	4	..	1	..	5	..	7	11	18
IV.	29	23	29	23	3	7	3	1	6	8	23	15	38
V.	8	7	8	7	2	..	..	..	2	..	6	7	13
VI.	8	2	8	2	..	..	..	..	..	..	8	2	10
VII.	13	4	13	4	4	2	1	..	5	2	8	2	10
VIII.	..	..	..	..	..	..	..	..	..	..	..	..	..
IX.	42	38	42	38	14	9	1	3	15	12	27	26	53
X.	..	4	..	4	..	1	..	..	..	1	..	3	3
XI.	..	..	..	..	..	..	..	..	..	..	..	..	..
XII. P	4	2	12	11	2	1	..	..	8	3	4	8	12
XII. O	8	9			4	1	2	1					
XIII.	2	..	2	..	..	..	..	..	..	..	2	..	2
XIV.	..	..	..	..	..	..	..	..	..	..	..	..	..
XV.	..	3	..	3	..	..	..	..	..	..	..	3	3
XVI.	2	3	2	3	..	1	..	..	..	1	2	2	4
XVII.	24	24	24	24	7	3	..	2	7	5	17	19	36
XVIII. P	151	189	187	222	29	32	12	15	59	55	128	167	295
XVIII. O	36	33			10	5	8	3					
XIX.	..	20	..	20	..	5	..	1	..	6	..	14	14
XX.	16	..	16	..	6	..	1	..	7	..	9	..	9
XXI.	17	27	17	27	4	7	1	..	5	7	12	20	32
XXII.	..	..	..	..	..	..	..	..	..	..	..	..	..
XXIII.	..	4	..	4	..	..	..	..	..	..	..	4	4
XXIV.	..	..	..	..	..	..	..	..	..	..	..	..	..
XXV.	13	6	13	6	..	1	..	1	..	2	13	4	17
XXVI.	..	..	..	..	..	..	..	..	..	..	..	..	..
XXVII.	47	..	47	..	14	..	1	..	15	..	32	..	32
XXVIII.	..	28	..	28	..	4	..	1	..	5	..	23	23
XXIX.	14	10	14	10	5	2	..	..	5	2	9	8	17
XXX.	..	23	..	23	..	4	..	..	..	4	..	19	19
XXXI.	..	..	..	..	..	..	..	..	..	..	..	..	..
XXXII. P	245	..	437	..	87	..	28	..	199	..	238	..	238
XXXII. O	192	..			59	..	27	..					
XXXIII. P	..	347	..	505	..	65	..	44	..	174	..	331	331
XXXIII. O	..	158			..	53	..	12					
XXXIV.	41	18	41	18	11	2	..	..	11	2	30	16	46
XXXV. P	202	264	273	338	82	106	36	32	154	165	119	173	292
XXXV. O	71	74			29	24	7	3					
XXXVI.	85	6	85	6	8	1	3	..	11	1	74	5	79
XXXVII.	..	8	..	8	..	2	..	2	..	4	..	4	4
XXXVIII.	..	6	..	6	..	2	..	..	..	2	..	4	4
XXXIX.	9	13	9	13	4	5	..	..	4	5	5	8	13
XL.	8	2	8	2	2	..	..	..	2	..	6	2	8
XLI.	9	5	9	5	1	..	..	1	1	1	8	4	12
XLII.	1	2	1	2	1	..	..	..	1	..	..	..	2
Total P	602	802	1309	1397	200	204	74	91	522	471	787	926	1713
Total O	707	595			192	145	56	31					

Bombay Bench Royal Asiatic Soc
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ON THE CENSUS

OF THE

ISLANDS OF BOMBAY AND COLABA.

BY

COLONEL SYKES, F.R.S.

From the JOURNAL OF THE STATISTICAL SOCIETY OF LONDON.
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On the Census of the Islands of Bombay and Colaba, taken on the 1st of May, 1849, by Captain Baynes, Superintendent of Police. By COLONEL SYKES, F.R.S.

[Read before the Statistical Section of the British Association at Belfast, 2nd September, 1852.]

THE entire population of the islands of Bombay and Colaba, as numbered on the night of the 1st of May, 1849, amounts to no less than 566,119 persons; of these, it is stated that 354,090 are males, and only 212,029 females. The Hindoos amount to 296,931, or very considerably more than one-half of the entire population. The Mussulmans are more numerous than the Parsees, but the excess is less than 10,000, and each of these persuasions numbers in its ranks more than one-fifth of the inhabitants of the island. The entire number of Europeans, Indo-Europeans, native Christians and Jews, amount to more than 20,000. No distinction, however, appears to have been made between those born on the island or mainland, or elsewhere, nor between permanent residents and mere sojourners, nor is there (as on occasion of the census of 1833) a column to show the number of vagrants, nor any statement of the number of houses.

The population of the different divisions, as might have been expected, is shown to be exceedingly varied in extent and composition. The second, or the native town, to the east of the Bhendy Bazaar, contains considerably more than two-fifths of the entire population of the island; next in density, comes the third division, comprising the west of the native town. The Fort and Colaba division stands third.

The most unusual feature in the returns is the immense excess of males over females. The former, as already noticed, are given at 354,090, the latter, at only 212,029, being a proportion of only 59 per cent. throughout the island. In Europe, it is well known, that the number of females is generally in excess of the males. This rule, it is true, does not appear to hold good in this country, for in all recent population returns of Zillahs, and in the mortuary returns of the island of Bombay, the males are considerably more numerous. But in no instance is the difference anything like so great as in the present; not even in those districts where the prejudice against a numeration of females may be regarded as strongest, or where the practice of female infanticide is most certainly known to prevail.*

* Amongst the Rajpoot tribes of Kattywar and elsewhere in India, amongst Rajpoots, female infancicide did, at one time, prevail to a very great extent. The cause of this was the pride of Rajpoot families, who, unhappily, considered themselves degraded by having a daughter arrived at puberty unmarried; but the ostentatious expense with which custom rendered it imperative to celebrate a marriage, necessarily restricted the number of these celebrations, and to obviate the chances of the future stigma of having an unmarried daughter, female infants were made away with shortly after birth. The Government, to operate upon the minds of parents, has benevolently established a marriage portion-fund, so that absolute want of means shall not be a motive for the commission of infanticide; and it is believed that the shocking practice is very considerably diminished. Moreover, the Government is ceaseless in its efforts, through the medium of its political agents in Rajpoot states, to induce the chiefs to make the practice criminal, and many of the chiefs of Kattywar, Cutch, and Rajpootan, have entered into treaties with the British Government to this end. In Bombay it is not suspected that infanticide is practised.

There are, indeed, some reasons for a partial excess of males in Bombay above the proportion of the surrounding territory, especially in the month of May, before the setting in of the rains. The seamen in Bombay harbour are mostly without wives, and the workmen in the dockyards, factories, &c., do not generally bring their families with them. The class of labourers on the public works will also contain a proportionately larger number of males than females, though there will be among them a considerable sprinkling of the latter; among the troops and camp followers too, the women will be much fewer than among an equal number of villagers, and a large proportion of male children are assembled here to attend the schools and colleges. But after making every allowance of this kind, the relative proportion, or rather disproportion of the sexes in these returns, will still appear of questionable accuracy.

The anomaly can scarcely be ascribed to any caste prejudices on the subject of females, as hitherto commonly supposed, for the order of deficiency from the caste in which the proportion of females is lowest, to that in which it is highest, is the following:—1, Seedees; 2, Europeans; 3, Hindoos; 4, native Christians; 5, Mussulmans; 6, Indo-Europeans; 7, Jains and Boodhists; 8, other castes; 9, Jews; 10, Parsees. Among the Hindoos, the proportion of females is only about 50 per cent. Among the Mussulmans, 60 per cent., and among the Parsees, about 88 per cent.

Nor is the difference to be attributed to the peculiar kind of population in any locality. For although the average of the sexes in the several divisions does vary considerably, yet in none does it rise to 75 per cent., and it is rather higher than lower in the densely peopled portions of the native town, where the work-people chiefly reside.*

In regard to ages, Captain Bayne's statements do not afford much valuable information, nor the means of deducing it. He has remarked on this head, "I found, that the generality of the ages given, are so utterly unworthy of trust, that I have thought it better to confine myself to three distinct periods; viz., from birth to 13 years, from 14 to 50 as adults, and above 50 as aged. Though this is not as minute as I could have wished, yet it has the advantage of being correct." In this passage, it is assumed that Captain Baynes has the means of testing the returns of the census, by comparison with other and more accurate sources of information. As, however, we do not learn what these sources are, and as there is no careful register of births on the island, we can hardly suppose that the value of the returns will have been much increased by any subsequent alterations.

Captain Baynes has given only three divisions of ages, children, adults, and aged. Dr. Leith, in his Mortuary returns, has been able to divide the periods of life much more minutely: his first four periods having reference to the first and second dentition; his fifth to puberty; his sixth extending to twenty years, and the remainder progressing by decennial periods up to eighty, beyond which he considers that no certain data can be expected. In the present case, of course

* The disproportion of the sexes cannot be attributed to female infanticide in Bombay, because, amongst the population, there are few of the Rajpoot castes, amongst which this atrocity is chiefly perpetrated.

such a complicated subdivision was not required. It might have been well, however, to have retained the division from 13, or rather 14, to 20 as youths, and also to have distinguished those between 50, or rather 51, and 80 from those above the latter age. In this way, the returns of any subsequent censuses will be more valuable, especially for medical purposes. They will also be more instructive to the superintendent of police himself, as the age of puberty is so low in this country, that it does not represent the age at which a man enters upon active occupations, whether for good or for evil.

In the matter of castes, the present returns are not satisfactory. The great divisions of the population have indeed been given, but there is no attempt to distinguish the subdivisions, and even incongruous religions are classed together, such as Jain, Lingaet, and Boodhist, the Lingaet alone belonging to the Hindoo system. In explanation of this omission, Captain Baynes has remarked, that from knowing the different castes, he had hoped to be able to classify them into trades, but that the people in Bombay have broken through the prejudices, so strictly adhered to elsewhere, of children following the occupation of their parents, and he was therefore compelled, after great delay and difficulty, to give up the attempt. But if all the members of one caste no longer follow the same trade in Bombay, it would still be very interesting to know their relative numbers, and to ascertain, by degrees, their respective occupations. This, indeed, would be nothing else than to trace the progress of a striking and fundamental change in the constitution of the native society of the place. It is probable, however, that Captain Baynes has over estimated the present extent of this reformation or revolution, and the difficulty of obtaining sufficient information in regard to professions.

Among the statements, is one drawn up from the data furnished by Captain Baynes, showing the relative numbers of young, adult, and aged persons in each of the different persuasions. It would appear from this, that population (as was to be expected) is progressing, in the several great classes, in a ratio generally proportionate to the abundance of females in each.* Thus the per-centage of youths

* Some of the constituents of the population are very peculiar, and have a high historical interest. The Parsees, for instance, numbering 114,698, the most industrious, enterprising, educated, intelligent, and wealthy of the inhabitants, are the descendants of the ancient fire-worshippers of Persia, who expatriated themselves at the period of the spread of Mahomedanism, and are believed to have landed in India, near to Bulsar, in the northern Konkun. They have preserved, to this day, the physical characteristics, complexion, religion, and usages, of their forefathers, and, strange to say, notwithstanding the spread of European knowledge amongst them, and the great proficiency of very many in European literature, science, and art, they continue the superstitious usages of exposing their dead on the tops of towers to be devoured by the fowls of the air, of worshipping fire, and of practising their worship with puerile and absurd ceremonials.

The Jews of Bombay, also, are not less objects of historic interest than the Parsees; they amount to 1,132, and they and their more numerous co-religionists on the Malabar coast, are probably descended from the ten tribes of the first captivity, and escaped from the cruel oppressions of their Assyrian masters to India. With rare exceptions, they are as black as the natives of the country, but have somewhat of the Jewish countenance. They possess parts of the Bible, and read it in Hebrew. They enlist in the regular native regiments, and many of them are acquainted with reading,

of both sexes among the Parsee population, is 23·4, among the Mussulmans 17·7, and among the Hindoos only 10·8. Should these results be correct, the excess of Hindoos over Parsees must be very rapidly diminishing, and it may be expected that the latter, at no very distant period, will constitute a majority of the fixed inhabitants of the island.

The low ratio of females to males, and of youths to adults, among the Hindoos, may both depend, in some degree, on the numbers of adult Hindoo sojourners, who, as labourers, &c., would still (on the 1st May) be found about the shipping, dockyard, and public works. As already remarked, however, this alone will not explain the extent of this anomaly, though it will materially diminish the proportion which the resident Hindoo population bears to the entire fixed population of the island.

Another statement shows the relative per centage of young, adult, and aged persons in each Police division. In the absence of fuller information, it may serve to indicate approximately the comparative increase of population in the different parts of the island, and the average terms of life in each, and so likewise to show their comparative sanatory state. It is curious, according to this table, that the proportions of young children and aged survivors are both largest in the B. division, or east of the native town, and the proportion of adults smallest there, although that is the most densely crowded part of the island, where epidemic diseases are most prevalent and most fatal, and which contains the temporary homes of most of the adult labouring population.

We are not yet in a position to draw any certain conclusions as to the comparative healthiness of Bombay, as indicated by the annual

writing, and cyphering; they make smart non-commissioned officers, and frequently obtain commissions as native officers. In support of the belief of these Jews belonging to the tribes of Israel, and, therefore, to the first captivity, rather than to those of Judah and the second captivity, they all have the affix of Israel to their names, such as Daodjee (David) Israel, Sullimanjee (Solomon) Israel, Maosjee (Moses) Israel, Benjaminjee (Benjamin) Israel, &c. Recently a colony of Jews has been found at Kai-fung-foo, in Honan, in China, 600 miles from Shangai, who consider that they came originally from India, and they, too, call themselves Israelites. Although possessed of the Hebrew Pentateuch and Hebrew Liturgies, they have forgotten the Hebrew language; but two of them eagerly accepted an invitation of the English missionaries at Shangai to be taught Hebrew;—these, also, may be a fragment of the ten tribes.

Another curious portion of the inhabitants of Bombay is the Lingaet Hindoos, improperly classed with the Jains and Boodhists, who are not Hindoos. They are followers of Siva, but repudiate Brahminism, and exclusively worship the Phallus, which emblem they suspend round the neck or attach to the arm, in a silver case. They originated with Bassava in the 12th century.

The Jains are an heterodox offshoot from the Boodhists, whose religion pervaded all India from the 6th century before Christ, until the 7th or 8th century after. The Juttees, or Sacerdotals, are characterised by their extreme regard for animal life, and wear a gauze veil over the mouth for fear they should swallow an insect, and carry a fan in their hands to fan away insects from the ground before they sit upon it. They do not wear a covering on the head, nor shave it, but crop the hair short like a European; and their white robe, worn like a Roman toga, and their solemn stately gait, give them an air of great dignity. With respect to the other constituents of the population of Bombay, for its narrow area, probably it exhibits a more heterogenous mixture than any other spot on the globe.

per centage of deaths. From the imperfect Mortuary returns* at his disposal, Captain Baynes was led to believe that the average for the whole island, during the year prior to this census, was about 2 per cent., which he considered to be rather a high rate in the absence of epidemic disease. On this it may be remarked, that far from being a high rate, 2 per cent. is extremely low—lower than the average mortality in any part of Great Britain. Dr. Leith, in a careful comparison of the number of registered deaths during twelve months (as shown in the more complete returns which he has since prepared) with the number of inhabitants in this census, reduces the proportion of deaths even lower than 2 per cent., notwithstanding that the bills of mortality for the year in question include a number of casualties from epidemic disease, especially cholera and small-pox. If, therefore, the returns be trustworthy, the climate of Bombay, in ordinary seasons, must be as favourable to the human constitution, for natives of the place, as almost any part of the known world, though in coming to such a conclusion, the very large floating population must not be forgotten.

On all these matters, however, further approaches to accuracy can be obtained after repeated experiments and more extensive comparison of results. It may further be observed, that the numbers as now given, viz., 566,119, is greatly in excess of the amount usually supposed to represent the population. If detached villages be included, the population of the town and harbour will, it is believed, be exceeded by few towns in Europe. According to the last returns, it is superior to any provincial town in Great Britain, and superior also to any interior city in India.

It is to be doubted, however, whether these statements contain a satisfactory approximation to the truth. But they may serve as a basis for future statistical enquiries.

The publication of these tables may be regarded as a commencement in the work of record. Even if the returns are not as full and as faithful as possible, still there are no other materials available for comparison. There are no former tables of the same kind, and no arrangements have been made for procuring them in future. There is no complete register of births, and it is only lately that a registry of deaths has been commenced. There are no migration returns, nor any information as to the supply of the necessaries of life, by which to judge whether the increase of population is restricted by a limited supply of food, or to form an opinion as to the degree of comfort and luxury enjoyed by the people, which are an index of their condition.

* Returns are now complete for 1849, 1850, and 1851. The average deaths for these years was, Boodhist, Brahmin, and Lingaet ..... 11·92 per cent.

Hindoo, eating flesh	2·29	,,
Mussulmans	2·15	,,
Parsee	0·64	,,
Native Christian, Jew, and Indo-European	3·64	,,
Europeans	5·23	,,
Average of all Castes	2·11	,,

Ages— Under 14	5·58	per cent.
,, 14 to 50	1·33	,,
,, Above 50	2·29	,,

Census of the Islands of Bombay and Colaba, as enumerated on the 1st of May, 1849.

Castes.	Males.				Females.				Total.
	Under 14.	14 to 50 inclusive.	Above 50.	Total at all Ages.	Under 14.	14 to 50 inclusive.	Above 50.	Total at all Ages.	
A Division.									
Jain, Lingaet, Boodhist	20	86	4	110	16	39	5	60	170
Brahmin	50	38	1	89	24	23	10	57	146
Hindoos of other Castes	95	18,501	913	19,509	71	11,249	734	12,054	31,563
Mussulman	214	1,031	84	1,329	176	421	66	663	1,992
Parsee	4,005	20,432	1,911	26,348	3,644	14,693	1,910	20,247	46,595
Jew	3	65	18	86	3	30	2	35	121
Native Christian	52	316	11	379	25	232	10	267	646
Indo-Briton	79	140	13	232	105	102	4	211	443
Indo-Portuguese	65	535	10	610	35	156	7	198	808
Pure European	90	1,196	56	1,342	118	1,156	28	1,392	2,634
Seedee, or Negro African	12	102	....	114	4	15	....	19	133
Other Castes	171	379	60	610	150	185	3	338	948
Totals	4,856	42,821	3,081	50,758	4,371	28,301	2,779	35,451	86,209
B Division.									
Jain, Lingaet, Boodhist	6	33	8	47	5	18	....	23	70
Brahmin	217	567	76	860	110	326	66	502	1,362
Hindoos of other Castes	14,164	57,254	19,217	90,635	6,251	25,178	9,912	41,341	131,976
Mussulman	9,518	14,237	7,224	30,979	8,724	11,145	7,179	27,048	58,027
Parsee	6,295	6,676	5,898	18,869	6,182	6,491	5,765	18,438	37,307
Jew	151	279	63	493	136	269	69	474	967
Native Christian	180	452	2	634	130	255	14	399	1,033
Indo-Briton	20	37	8	65	17	24	7	48	113
Indo-Portuguese	77	268	45	390	116	149	36	301	691
Pure European	9	63	1	73	18	31	....	49	122
Seedee, or Negro African	18	147	5	170	6	25	3	34	204
Other Castes	198	648	69	915	174	312	72	558	1,473
Totals	30,853	80,661	32,616	144,130	21,869	44,223	23,123	89,215	233,345

A Division includes Colaba, the Fort, and the Esplanade.

B Division is bounded on the South by the Esplanade, on the West by the Kalbadavee and Bhendy Bazaar Roads, on the North by the Baboola Tank and Wall Packaree Road to Warree Bunder, and on the East by the Harbour, and includes the following places: the Market, Hunumon Gulies, Gunnesh and Wittulwady's, Parsee Wada, Memon Wada, Coli Wada, Rungary, Mhola, Old Combar Wada, Tonton Poora, Khudduck and Dungary Bazaar, Bengalpoora, Old Nagpada, Chinch Bunder, Chunam Kiln Row, New and Old Oomer-Cadies. Nowrojee Hill and Wall Pokhody.

Census of the Islands of Bombay and Colaba, as enumerated on the 1st of May, 1849.—Continued.

Castes.	Males.				Females.				Total.
	Under 14.	14 to 50 inclusive.	Above 50.	Total at all Ages.	Under 14.	14 to 50 inclusive.	Above 50.	Total at all Ages.	
C Division.									
Jain, Lingaet, Boodhist	171	625	67	863	225	429	64	718	1,581
Brahmin	535	2,018	352	2,905	397	1,154	104	1,655	4,560
Hindoos of other Castes	3,615	32,652	2,178	38,445	3,264	28,466	2,085	33,815	72,260
Mussulman	1,136	14,563	344	16,043	960	4,135	285	5,380	21,423
Parsee	3,107	10,972	426	14,505	3,459	10,956	235	14,650	29,155
Jew	3	10	2	15	2	5	3	10	25
Native Christian	27	1,714	54	1,795	174	196	54	424	2,219
Indo-Briton	62	97	16	175	28	58	6	92	267
Indo-Portuguese	165	637	51	853	118	658	34	810	1,663
Pure European	48	141	14	203	38	58	2	98	301
Seedee, or Negro African	19	29	13	61	15	33	25	73	134
Other Castes	203	955	117	1,275	347	754	134	1,235	2,510
Totals	9,091	64,413	3,634	77,138	9,027	46,902	3,031	58,960	136,098
D Division.									
Jain, Lingaet, Boodhist	....	....	....	....	....	....	....	....	....
Brahmin	60	210	15	285	30	89	6	125	410
Hindoos of other Castes	25	1,986	188	2,199	112	629	156	897	3,096
Mussulman	12	42	....	54	19	35	1	55	109
Parsee	41	135	6	182	61	89	12	162	344
Jew	....	....	....	....	....	....	....	....	....
Native Christian	1	13	....	14	1	13	....	14	28
Indo-Briton	....	2	....	2	....	....	....	....	2
Indo-Portuguese	23	83	....	106	18	29	5	52	158
Pure European	17	51	1	69	9	31	....	40	109
Seedee, or Negro African	....	....	....	....	....	....	....	....	....
Other Castes	5	198	2	205	5	111	2	118	323
Totals	184	2,720	212	3,116	255	1,026	182	1,463	4,579

C Division is bounded on the North by the Grant and Obelisk Roads, on the East by the Bhendy Bazaar, and Kalkadavee Roads, along the North of Marine Lines, to Backbay, on the South-West by Backbay, and on the West by the Back Girgaum Road to New Chowpatee, and includes the Washerman's Tank, or Girgaum Road, New and Old Sonapoor, English, Mussulman, and Hindoo Burying Grounds, Kalbadavee, Bhooleshwur, Funuswady, Mangelwady, Bhoemadas, Nizampoora, part of New Nagpada, Israel Poora, New

Census of the Islands of Bombay and Colaba, as enumerated on the 1st of May, 1849.—Continued.

Castes.	Males.				Females.				Total.
	Under 14.	14 to 50 inclusive.	Above 50.	Total at all Ages.	Under 14.	14 to 50 inclusive.	Above 50.	Total at all Ages.	
E Division.									
Jain, Lingaet, Boodhist	3	18	7	28	2	8	7	17	45
Brahmin	14	63	10	87	11	36	2	49	136
Hindoos of other Castes	59	13,071	619	13,749	759	3,086	733	4,578	18,327
Mussulman	290	16,043	392	16,725	812	11,941	434	13,187	29,912
Parsee	46	324	35	405	89	79	45	213	618
Jew	....	....	....	....	....	....	....	....	....
Native Christian	62	128	76	266	74	55	8	137	403
Indo-Briton	82	190	20	292	82	20	25	127	419
Indo-Portuguese	52	227	10	289	20	61	17	98	387
Pure European	98	136	20	254	35	24	13	72	326
Seedee, or Negro African	2	5	1	8	2	6	1	9	17
Other Castes	236	438	37	711	237	447	44	728	1,439
Totals	944	30,643	1,227	32,814	2,123	15,763	1,329	19,215	52,029
F Division.									
Jain, Lingaet, Boodhist	....	3	....	3	....	1	....	1	4
Brahmin	28	88	28	144	48	88	11	147	291
Hindoos of other Castes	1,036	17,169	27	18,232	1,029	3,628	27	4,684	22,916
Mussulman	40	5,339	47	5,426	30	350	40	420	5,846
Parsee	2	16	3	21	2	17	2	21	42
Jew	1	3	....	4	1	....	....	1	5
Native Christian	468	868	73	1,409	468	868	68	1,404	2,813
Indo-Briton	2	11	2	15	3	10	2	15	30
Indo-Portuguese	250	456	50	756	260	460	30	750	1,506
Pure European	2	16	1	19	3	14	2	19	38
Seedee, or Negro African	2	10	1	13	3	11	....	14	27
Other Castes	46	93	6	145	46	86	6	138	283
Totals	1,877	24,072	238	26,187	1,893	5,533	188	7,614	33,801

E Division contains Mazigaum, Camatee Poora, Byculla, the Flats, the Mount, Colee Waree, Shinul Pada, Cheech Pogley, Lall Bag, Soopary Baug, Small Sewree, Parell, and part of Bhoewada.

F Division contains Motee Sewree, Matoonga, Nagowa, part of Bhoewady, Purbhadavee, Sion, Worly, Mahim, and Mahim Woods.

Census of the Islands of Bombay and Colaba, as enumerated on the 1st of May, 1849.—Continued.

Castes.	Males.				Females.				Total.
	Under 14.	14 to 50 inclusive.	Above 50.	Total at all Ages.	Under 14.	14 to 50 inclusive.	Above 50.	Total at all Ages.	
Water Division.									
Jain, Lingaet, Boodhist	....	32	....	32	....	....	....	....	32
Brahmin	....	31	....	31	....	....	....	....	31
Hindoos of other Castes	275	9,489	45	9,809	1	47	....	48	9,857
Mussulman	102	6,663	38	6,803	6	37	....	43	6,846
Parsee	....	637	....	637	....	....	....	....	637
Jew	....	14	....	14	....	....	....	....	14
Native Christian	....	313	....	313	....	1	....	1	314
Indo-Briton	1	55	....	56	....	3	....	3	59
Indo-Portuguese	16	186	....	202	....	2	....	2	204
Pure European	25	1,506	4	1,535	2	11	....	13	1,548
Seedee, or Negro African	1	371	1	373	....	1	....	1	374
Other Castes	....	142	....	142	....	....	....	....	142
Totals	420	19,439	88	19,947	9	102	....	111	20,058

Water Division contains the whole of the Harbour, from the Light House to Sewree Bunder.

Statement showing the Population and Per-Centage of Young, Adult, and Aged Persons in each Police Division.

Divisions.	Under 14.				14 to 50 inclusive.				Above 50.				Total at all Ages.		
	Males.	Females.	Total.	Proportion of Youths to Total.	Males.	Females.	Total.	Proportion of Adults to Total.	Males.	Females.	Total.	Proportion of Aged to Total.	Males.	Females.	Total.
A	4,856	4,371	9,227	10·7	42,821	28,301	71,122	82·4	3,081	2,779	5,860	6·7	50,758	35,451	86,209
B	30,853	21,869	52,722	22·5	80,661	44,223	124,884	53·5	32,616	23,123	55,739	23·8	144,130	89,215	233,345
C	9,091	9,027	18,118	13·3	64,413	46,902	111,315	81·7	3,634	3,031	6,665	4·8	77,138	58,960	136,098
D	184	255	439	9·5	2,720	1,026	3,746	81·8	212	182	394	8·6	3,116	1,463	4,579
E	944	2,123	3,067	5·8	30,643	15,763	46,406	89·1	1,227	1,329	2,556	4·9	32,814	19,215	52,029
F	1,877	1,893	3,770	11·1	24,072	5,533	29,605	87·5	238	188	426	1·2	26,187	7,614	33,801
Water	420	9	429	2·1	19,439	102	19,541	97·4	88	....	88	4	19,947	111	20,058
Totals	48,225	39,547	87,772	15·5	264,769	141,850	406,619	71·8	41,096	30,632	71,718	12·6	354,090	212,029	566,119

Statement showing the Number of Males and Females of all Ages, and their Proportion to each other, in each Police Division, classified according to Caste.

Divisions.	Jain, Lingaet, or Boodhists.				Brahmins, and other Castes of Hindoos.				Mussulmans.			
	Males.	Females.	Total.	Proportion of Females to 100 Males.	Males.	Females.	Total.	Proportion of Females to 100 Males.	Males.	Females.	Total.	Proportion of Females to 100 Males.
A	110	60	170	54	19,598	12,111	31,709	61	1,329	663	1,992	49
B	47	23	70	48	91,495	41,843	133,338	45	30,979	27,048	58,027	87
C	863	718	1,581	83	41,350	35,470	76,820	82	16,043	5,380	21,423	33
D	...	...	...	...	2,484	1,022	3,506	41	54	55	109	101
E	28	17	45	60	13,836	4,627	18,463	33	16,725	13,187	29,912	78
F	3	1	4	33	18,376	4,831	23,207	26	5,426	420	5,846	7
W.....	32	...	32	....	9,840	48	9,888	...	6,803	43	6,846	...
Totals...	1,083	819	1,902	75	196,979	99,952	296,931	50	77,359	46,796	124,155	60

Divisions.	Parsees.				Jews.				Native Christians.			
	Males.	Females.	Total.	Proportion of Females to 100 Males.	Males.	Females.	Total.	Proportion of Females to 100 Males.	Males.	Females.	Total.	Proportion of Females to 100 Males.
A	26,348	20,247	46,595	76	86	35	121	40	379	267	646	70
B	18,869	18,438	37,307	97	493	474	967	96	634	399	1,033	62
C	14,505	14,650	29,155	101	15	10	25	67	1,795	424	2,219	23
D	182	162	344	89	...	...	...	...	14	14	28	100
E	405	213	618	52	...	...	...	...	266	137	403	51
F	21	21	42	100	4	1	5	25	1,409	1,404	2,813	99
W.....	637	...	637	...	14	...	14	...	313	1	314	...
Totals...	60,967	53,731	114,698	88	612	520	1,132	84	4,810	2,646	7,456	55

Divisions.	Indo-Europeans.				Pure Europeans.				Seedee, or Negro Africans.			
	Males.	Females.	Total.	Proportion of Females to 100 Males.	Males.	Females.	Total.	Proportion of Females to 100 Males.	Males.	Females.	Total.	Proportion of Females to 100 Males.
A	842	409	1,251	48	1,342	1,303	2,644	97	114	19	133	16
B	455	349	804	76	73	49	122	67	170	34	204	20
C	1,028	902	1,930	87	203	98	301	44	61	73	134	119
D	100	52	160	52	69	40	109	57	...	...	...	...
E	681	225	806	38	254	72	326	28	8	9	17	112
F	771	765	1,536	99	19	19	38	100	13	14	27	107
W.....	258	5	263	1	1,535	13	1,548	...	373	1	374	...
Totals...	4,043	2,707	6,750	66	3,495	1,595	5,088	45	739	150	889	20

Divisions.	Other Castes.				Total of each Division.			
	Males.	Females.	Total.	Proportion of Females to 100 Males.	Males.	Females.	Total.	Proportion of Females to 100 Males.
A	610	338	948	55	50,758	35,457	86,209	566
B	915	558	1,473	60	144,130	89,215	233,345	658
C	1,275	1,235	2,510	96	77,138	58,960	136,098	740
D	205	118	323	57	3,116	1,463	4,579	493
E	711	728	1,439	102	32,814	19,215	52,029	554
F	145	138	283	95	26,187	7,614	33,801	691
W.....	142	...	142	...	19,947	111	20,058	1
Totals...	4,003	3,115	7,118	77	354,090	212,029	566,119	59

Statement showing the Numbers of Young, Adult, and Aged Persons of the different Persuasions.

Caste.	Under 14 Years.				Under 51 Years.			
	Males.	Females.	Total.	Proportion of Females to 100 Males.	Males.	Females.	Total.	Proportion of Females to 100 Males.
Jain, Lingaet, or Boodhists	200	248	448	124	797	495	1,292	60
Brahmins and other Castes of Hindoos	20,173	12,107	32,280	60	153,137	73,999	207,136	48
Mussulmans	11,312	10,727	22,039	84	57,918	28,064	85,982	48
Parsees	13,496	13,437	26,933	99	39,192	32,325	71,517	82
Jews	158	142	300	89	371	304	675	81
Native Christians	790	872	1,662	110	3,804	1,620	5,424	42
Indo-Europeans	894	802	1,696	89	2,924	1,732	4,656	59
Pure Europeans	289	223	512	77	3,109	1,325	4,434	42
Seedee, or Negro Africans	54	30	84	55	664	91	755	13
Other Castes	859	959	1,818	111	2,853	1,895	4,748	67
Totals	48,225	39,547	87,772	82	264,769	141,850	406,619	53·5

Caste.	Under 81 Years.				Total.			Proportion of Youths to Total.	Proportion of Adults to Total.	Proportion of Aged to Total.
	Males.	Females.	Total.	Proportion of Females to 100 Males.	Males.	Females.	Total.			
Jain, Lingaet, or Boodhists	86	76	162	88	1,083	819	1,902	23·5	67·9	8·5
Brahmins and other Castes of Hindoos	23,669	13,846	37,515	58	196,979	99,952	296,931	10·8	69·7	12·6
Mussulmans	8,129	8,005	16,124	98	77,359	46,796	124,155	17·7	69·0	12·9
Parsees	8,279	7,969	16,248	90	60,967	53,731	114,698	23·4	62·3	14·1
Jews	83	74	157	89	612	520	1,132	26·5	59·6	13·8
Native Christians	216	154	370	71	4,810	2,646	7,456	22·2	72·7	4·9
Indo-Europeans	225	173	398	76	4,043	2,707	6,750	25·1	68·9	5·8
Pure Europeans	97	45	142	46	3,495	1,593	5,088	10·0	87·1	2·7
Seedee, or Negro Africans	21	29	50	138	739	150	889	9·4	84·9	5·6
Other Castes	291	261	552	89	4,003	3,115	7,118	25·5	66·7	7·7
Totals	41,096	30,632	71,718	74·5	354,090	212,029	566,119	15·5	71·8	12·6

Summary of the Census of the Islands of Bombay and Colaba, showing the Number of each Caste.

Castes.	Males.			Females.			Total at all Ages.		
	Under 14.	14 to 50 inclusive.	Above 50.	Under 14.	14 to 50 inclusive.	Above 50.	Males.	Females.	Total.
Jain, Lingaet, or Boodhist	200	797	86	248	495	76	1,083	819	1,902
Brahmin	904	3,015	482	620	1,716	199	4,401	2,535	6,936
Hindoos of other Castes	19,269	150,122	23,187	11,487	72,283	13,647	192,578	97,417	289,995
Mussulman	11,312	57,918	8,129	10,727	28,064	8,005	77,359	46,796	124,155
Parsee	13,496	39,192	8,279	13,437	32,325	7,969	60,967	53,731	114,698
Jews	158	371	83	142	304	74	612	520	1,132
Native Christian	790	3,804	216	872	1,620	154	4,810	2,646	7,456
Indo-Briton	246	532	59	235	217	44	837	496	1,333
Indo-Portuguese	648	2,392	166	567	1,515	129	3,206	2,211	5,417
Pure European	289	3,109	97	223	1,325	45	3,495	1,593	5,088
Seedee, Negro, African	54	664	21	30	91	29	739	150	889
Other Castes	859	2,853	291	959	1,895	261	4,003	3,115	7,118
Totals	48,225	264,769	41,096	39,547	141,850	30,632	354,090	212,029	566,119

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GOVERNMENT CHARITABLE DISPENSARIES OF INDIA.

STATISTICS

OF THE

GOVERNMENT CHARITABLE DISPENSARIES OF INDIA,

CHIELY IN THE BENGAL AND NORTH-WESTERN PROVINCES.

BY

LIEUT.-COLONEL W. H. SYKES, F.R.S.

[Read before the Statistical Section of the British Association, September 15, 1846.]

Some time since I submitted to the Statistical Society of London a compendious view of the origin, progress, and present condition of the Educational Institutions of the East India Company in India, for the instruction of native youth, which the Society did me the honour to publish in its Journal. My object in the present paper is to illustrate the practical results of such institutions in one branch of the knowledge communicated, and to prove what a rich harvest of good the people of India are already reaping, and how happily the objects of Government are fructifying. It was during the administration of that enlightened and benevolent nobleman, Lord Auckland, that the noble institutions, described in this paper, had their origin; and it was in a letter, dated 27th April, 1838, that the Government of India sanctioned the establishment of Dispensaries in some of the large towns in the Bengal Presidency. They were to be under the Civil Assistant Surgeon of the station, who was to be allowed fifty rupees per mensem, including his vaccination duties. An educated young man from the Medical College at Calcutta, on a salary varying from 40 to 100 rupees, but latterly fixed at 100 rupees, was to be placed in charge of the Dispensary. A small number of beds for extreme cases and for surgical operations were attached to each Dispensary, and the appointment of boys, as apprentices, for vaccine objects was suggested. It was proposed to limit the monthly charge for each institution to 250 or 300 rupees. The Dispensary was to be furnished with medicines and surgical instruments from the Government stores, and instruction was to be given to any youths who might desire to attend. The native assistant might practise privately.

The judge, magistrate, and civil surgeon were to be a standing committee for the management of the Dispensary, and were to correspond with the Medical Board. The Revenue Commissioners were to have a voice when present; the civil surgeon to be *ex-officio* secretary, and the committee might invite the co-operation of any native gentlemen.

The above arrangements were confirmed by the Court of Directors in a dispatch to Bengal of the 13th July, 1842, directing, however,

that the cost should not exceed a certain fixed sum, unless the natives assisted by subscriptions.

The Medical Board, in a letter to Government, dated 31st October, 1842, speak in confident terms of the prospects of success of the institutions, and say there are more native sub-assistant surgeons than can be employed in the service, "and, if after the trouble and expense which have been incurred in educating them at the new medical college, they be not sufficiently qualified, we must despair of ever seeing that object effectually attained."

What these qualifications proved to be the following paper will show.

The expectation of aid from the natives was not disappointed. The rajah of Burdwan, on the object being made known to him, immediately allotted 200 rupees per mensem for a Dispensary in Burdwan, and others in like manner have come forward.

The sub-assistant surgeons in charge of the Dispensaries were not all natives, although the great majority were so, some being of half-blood, and having probably a familiarity with the English language. The reports and returns were to be made half-yearly by the sub-assistant surgeons themselves; and as I shall have occasion to read a report from one of the educated European surgeons, and one from a native sub-assistant surgeon, the Section will have the opportunity of judging whether they could distinguish the one from the other by the phraseology. But the reports are not limited to the communication of information on medical subjects; they contain also much interesting and valuable matter on meteorology; the habits, customs, and prejudices of the natives; the state of drainage of towns, and physical characteristics of localities. The reports, so sent in, were transmitted by the superintending surgeon to the Medical Board at Calcutta, and by the latter forwarded to Government; and the Government, with sound judgment, directed them to be periodically printed for the use of the Court of Directors, the Government of Bengal, and the Medical Department generally.

I shall first take up for notice the tabular statements from the several Dispensaries, reserving for the close of this paper the text of the reports. In the initiation of extended objects there are generally considerable difficulties, and occasional want of uniformity of action; it is only after a period of working that the discrepancies are observed, and remedies applied. It does not appear that a common form of tabular return was supplied to the several Dispensaries on their establishment, some arranging the diseases treated alphabetically, and others classifying them systematically, according to the natural relation of the diseases, which appears to be the form finally adopted; but even after this form had superseded the alphabetical arrangement, in more than one Dispensary the former imperfect form was had recourse to, necessarily preventing that rigid comparison of progress and result in details, without the capacity for which tabular statements are almost valueless. The final form adopted arranged diseases under the great heads of the "Digestive Function," of the "Respiratory Function," of the "Sanguineous Function," of the "Nervous Function," of the "Sexual Function," of the "Excernent Function," from "External Violence," and a column for "Alii Morbi," which appears a very comprehensive one indeed, although under the great headings no less than fifty-eight diseases

are enumerated. The diseases, under the several heads, are shown in the tables.

As it was originally intended that each Dispensary should have a house-practice for the most serious cases, and out-practice for the generality of diseases, so it was intended that there should be separate returns of the house and out-practice; nevertheless there are but four house returns from Moradabad, a fifth not adaptable, and but five of out-patients. From Furruckabad no house return at all; from Moorshedabad only four instead of six; Allahabad one instead of six, and from Pooree five instead of six. In all these the house-patients have been included with the out-patients, and continuous comparisons therefore interrupted. It was my intention to have given the complete aggregate result of the practice at the several Dispensaries from the first adaptable tables of the second half of 1840, until the reports ending the 31st January, 1845; and it was only after having gone through the labour of extracting the figures from the several tables, with a view to final results, that I found that from the 31st July, 1842, until the 31st July, 1843, and from the 31st January, 1844, to the 31st July, 1844, the reports transmitted to the Court of Directors consisted of mere meagre statements from the Dispensaries, without tables, although from the following passage of the letter, dated December 1, 1843, of the Medical Board to the Deputy Governor of Bengal, Mr. W. W. Bird, forwarding these statements, they must have been of more than usual value:—

"We have on this occasion deemed it right to extract more largely than usual from the reports of some of the sub-assistant surgeons, both as they comprise matter of somewhat more than common interest, and as by permitting them occasionally to speak for themselves, a better means is afforded of judging of the increasing usefulness or otherwise of these institutions than any other that we can furnish, and of the progressive advancement in professional knowledge of the sub-assistants, and facility in the expression of their sentiments in the English language."

This hiatus is to be regretted, and I felt half disposed to abandon my labour; but on reflection, as my object was rather to show the practical result of our educational system, than to follow the medical practice of the several sub-assistant surgeons, I was induced to persevere; for though I could not show the whole amount of good resulting from the education given to these young men, I could certainly show a very great proportion of it. But the medical man in Europe who may inspect the tables with medical objects, may find occasion to regret the omissions, and want of continuity in the returns. This explanation will account for the blanks for half years, which will be found in the returns of all the Dispensaries. In the cases, however, of Furruckabad, Shahjehanpoor, and Jubbulpoor, the blanks are partially accounted for by these Dispensaries not being contemporaneously established with the rest.

As the returns comprise 267,456 cases treated, it may very properly be asked, what test is there of the accuracy of the returns made by young natives, who had every possible motive for exaggerating and enhancing the amount of their own labours and success, whose bread, in fact, depended upon this success? Setting aside, however,

the daily supervision of the civil surgeon of the station where the Dispensary was located, the returns themselves bear internal evidence of *bona fides*. How easy was it for the sub-assistant surgeons, particularly with out-patients, to put down most of those who ceased to attend as cured; nevertheless 94,618 are put down as relieved only, or ceased to attend. How easy was it for them, in the treatment of diseases which the world knows to be of almost certain cure, such as those of the skin, gonorrhœa, syphilis, &c., to have put them all down as cured; and no one would have questioned the accuracy of the return for a moment; nevertheless not two-thirds of these cases are returned as cured. It might have been expected also with the natural vanity of young men just started into practice, that there would have been some little show-off, some manifestation of a successful treatment of difficult cases; of curing diseases that are not readily affected by medicine or art; but there does not appear to be anything of the kind, excepting in two returns, which may be attributed to typographical errors. Elephantiasis, scrofula, tetanus, epilepsy, paralysis, anasarca, and leprosy, which are rarely manageable in the hands of the European scientific medical man, appear by the returns equally unmanageable in the hands of the native sub-assistant surgeons. There are in the returns numerous typographical errors; many of these have been corrected from the body of the return itself; and the others only occasion an error in the individual return; which is not appreciable in the sums total of all the returns. On the whole, therefore, the returns may be viewed with confidence for their general accuracy. It is not my object to enter into any medical question at all; my object is simply to show the amount of good done, and I might confine myself, therefore, to giving the total results; but the Section may expect from me some cursory observations upon the general features which the tables exhibit; and to this I will limit myself, referring the medical man to the tables themselves for details. I have arranged the tables so that a progressive view may be taken from Dacca and Chittagong, in the low lands of the East, through the low lands of Bengal *viâ* Bhowareepoor, Pooree, Moorshedabad, Patna, and Benares, to the Upper Provinces *viâ* Allahabad, Agra, Delhi, Shahjehanpoor, &c., thus separating what are called the Lower from the Upper Provinces of the Bengal and Agra Governments, that medical men, or others if so disposed, may investigate as far as the tables supply the means, the effect of climate in developing particular diseases. One element, however, to assist the judgment in the investigation, is wanting, and that is the population of the respective neighbourhoods of the several Dispensaries. In only one instance is it given, that of Allahabad, and I have attached it in the Appendix. Confining myself to the broad features, I may state, that 267,456 cases, including house and out-patients, were treated—of this number 168,871 were cured, 2,417 died, and 96,168 ceased to attend, and the results were not known. Intermittent fevers amounted to 20,028, and with the minor accompaniment of 4,590 remittent and 6,807 continued fever cases, take the lead of all other diseases both in the Upper and Lower Provinces, excepting only rheumatism, of which there were acute 9,087, and chronic 19,928 cases. The intermittent fever obtained at all the Dispensaries as a leading disease; the remittent fever very slightly at Moorshedabad, Pooree,

and Chittagong, in the low lands, but considerably at Dacca, also in the low lands. In the Upper Provinces scarcely at all at Agra and Mutra, but considerably at Delhi and Bareilly. The continued fever appears to have been pretty equally felt, excepting at Moorshedabad and Pooree, in the low lands, and Cawnpoor, in the Upper Provinces. Rheumatism, both chronic and acute, prevailed at all the Dispensaries, the only exception for the acute being Moorshedabad and Pooree, in the Lower, and Agra and Mutra, in the Upper Provinces, at which two last places there is not a single entry.

The next great features are ulcers and abscesses. The former rival in amount (20,615) the intermittent fevers, and prevail in all climates, but are readily curable. Phlegmon and abscesses (10,418) are half as numerous as the intermittent fevers.

Diarrhœa appears to prevail generally, but not with any intensity, amounting (9,123) to about two-fifths of the intermittent fevers.

Dysentery, both acute and chronic, appear to be moderate; the former 3,603, and the latter 3,377; the two together barely constituting a third of the intermittent fevers.

Patna, and Benares, and Bareilly suffered most from the former, and Benares and Delhi from the latter forms. Enlargement of the spleen (6,484) appears a common accompaniment, or rather result, of fever cases, but it decidedly prevails in the Lower Provinces rather than the Upper; the only exceptions being Allahabad and Delhi, and at both these places fever prevailed in more than an ordinary degree. The next great feature, or rather the chief feature, as far as numbers go, is that of the comparatively harmless diseases of the skin (25,733). These are common to all the Dispensaries, whether in the Lower or Upper Provinces, and in some few cases they have proved so intractable that death has ensued. A melancholy feature of the returns is the large amount of syphilitic and analogous affections, primary and secondary, amounting respectively to 13,261, 7,658, and 6,694, and frequently being of so inveterate a character as to occasion death. A singular feature of the returns is the comparatively enormous amount of mechanical injuries: of contusions, 1,548, dislocations, 712, incised wounds, 2,588, fractures, 737, and burns, 517: total, 6,102. This scarcely supports our ideas of the gentle, resigned, and placable Indian, but would rather lead us to believe in a good deal of pugnacity and violence, with no indisposition to occasion broken heads and broken bones; it is but fair to admit, however, that many cases are returned as wounds, &c., from elephants and tigers. A very affecting accident is mentioned by the sub-assistant surgeon of Benares, Esher Chunder Gangoolee, under the head of Burns, which terminated fatally; he says—

"The second case was that of a man who fell into the funeral pile of his *only* son. He was burnt all over the front part of his body, and on being brought to the hospital endeavoured, with all the strength that was left him, to prevent the application of external remedies; he also refused to take any internal medicine, and died next morning."

Such cases of ardent attachment exhibiting itself in other forms than the above, are by no means uncommon, and I have witnessed several. Even in cases of Suttee I have known the widow resist, with all her power, attempts to remove her from the funeral pile of her husband. Both bilious and spasmodic cholera appear but as minor items in the

returns; they appear to have been treated *simultaneously* in several of the Dispensaries, though the mortality from bilious cholera bore no comparison with that from the spasmodic; nevertheless, the results of the latter support the statements I recently published of the mortality in the Madras army for five years, from which it appeared that the mortality from cholera, even in the worst periods, never reached two per cent. of the whole mortality of the army. Inflammatory diseases, whether of the head (370), chest (1,574), or bowels (326), bear a small proportion to the total diseases. I should have thought that inflammation of the chest would have stood prominent in the Upper Provinces; but it appears only to have prevailed to any extent at Moradabad, while a greater number appear on the returns from Chittagong, and 248 from Moorshedabad. Diseases of the nervous functions appear scarcely marked. The largest figure is 1,170, paralysis, with only 90 apoplexy, and 68 tetanus, mania 369, many of which cases are returned cured. It is a singular feature among the people of India that so small an amount of madness, in its various forms, prevails.

Dropsy, under its different divisions, is by no means uncommon, but its treatment on the whole appears successful. Leprosy appears to a considerable extent, 2,436 cases, and throughout the Upper and Lower Provinces remedial treatment appears generally ineffectual, but some cases to the contrary, in one or two of the returns, have led to one of my preliminary observations. I may say the same of asthma, which is generally returned as relieved only, but in some cases the contrary. The asthmatic cases are 3,740. Consumption does not appear on the returns at all of six Dispensaries; a solitary case on some others, and the highest number is at Chittagong (44), where it might have been least expected. On the whole, it is comparatively non-existent in India. Colds are common enough (6,466), although not a third of the fever cases, and do not appear to produce the consequences common in less favoured climates. Disease of the liver, both acute and chronic, the bane of Europeans in India, is but a fraction of the whole amount of disease amongst the natives, only 299 acute, and 739 chronic cases, having come under the observation of the sub-assistant surgeons. It might have been supposed that columns for fifty-eight diseases would have comprised all that it was necessary to report; nevertheless, so far from this being the case, the column of Alii Morbi contains the greatest total of any, namely, 51,908. This column comprises hœmorrhoids, cancer, fistula in ano, exostosis, amaurosis, catalepsia, bronchitis, constipation, diseases of the teeth, croup, hysteria, hydrophobia, leucorrhœa, diabetes, and unusual forms of diseases of the respiratory organs, of the sexual organs, of the skin, &c., &c. On the subject of the mortality in the treatment of the different diseases, I shall say little; it can only be fairly put in connexion with the treatment of the house-patients. Here the diseases mostly ran their course and the results were satisfactorily known, but even from the house-list, patients to the number of 1,550 absconded before they were healed. Amongst the out-patients, the results of 89,263 cases were not known, by the parties not returning to the Dispensary; of these many may have died, who are not inserted in the returns. As the Dispensary returns, however, show the number of those who did not return, and the diseases for which they were treated, an approximate estimate of

the probable results may be obtained from the nature of the diseases, and using the results of the treatment of similar diseases in the house-list as elements of comparison and deduction. 171,722 of the out-patients were known to be cured, and the known success justifies, to a certain extent, qualified presumptions of success in the unknown cases. I must, however, refer those disposed to investigate the subject to the tables themselves for the details.

Most of the tables contain a very useful entry of the average time the several diseases were under treatment, both those which ended in death and those which were cured. It is to be regretted that this entry is occasionally omitted in some Dispensary returns, which have once made it, but in others it has never been entered at all, although there is a column for it in the prescribed forms. It would appear that the average results of the time under treatment differs, not only in the returns of the different Dispensaries, but in the returns of the same Dispensary, contrasting one half-year with another half-year. I looked to see whether the difference resulted from climate, distinguishing the Lower from the Upper Provinces, or between one season and another in the same Dispensary, but I could not come to any satisfactory conclusions. A table of the average time some of the principal diseases were under treatment is annexed.

I have now laid before the Section in half an hour, results which it has cost me from eight to ten hours daily labour for three weeks, to accumulate, compare, and digest, and I shall now proceed to easier matters.

I have hitherto adverted only to the knowledge of medicine of the sub-assistant surgeons, but the most valuable branch of knowledge taught to these young men is the science of surgery. The amputation of limbs, couching for cataract, cutting for stone, tapping for dropsy, &c. The success of the several operations is very creditable to the skill and to the nerve of the operators. The diary of many of these cases by some of the operators, in their own simple, and for the sake of brevity, contracted language, is often of considerable interest. I annex two notices of cases of lithotomy, as types of others; but Sub-Assistant Surgeon Ram Narrain Doss, of Cawnpoor, showed his skill, not only as a manipulator in lithotomy, but as an excellent draftsman, for he attached to his report drawings of the stones he extracted.

"Cawnpoor, Dec. 1843.

"Among the operations performed lithotomy forms the most in the number, and since the Dispensary is under my charge, I have operated for stone on twelve subjects, and am proud to say that I have been successful in all of them, all got well without much trouble or suffering, and within the past six months, four cases of lithotomy have been operated, and three are discharged cured, and one is under treatment*."

"Jabbulpoor, Dec. 1845.

"In this case there was evidently infiltration of urine in the cellular tissue about the neck of the bladder and the communication between that receptacle and rectum was the result of ulceration. The rectum was not certainly wounded during the operation. This is the

* Ram Narrain Doss.—His own words.

only case in which untoward symptoms came on out of my ten successful operations*."

It will not be necessary to advert more at large to numerous successful surgical operations of all kinds performed by these young men, but in the Appendix I have collected some lists of reported cases for the inspection of such as desire to examine them.

Another of the important duties these young men had to perform, was the discovery and application to remedial purposes of native medicines, many of which were known to be very efficacious, although unknown to our pharmacopœias. It was desired to save the expenditure of European medicines, and to select such native medicines as might advantageously be incorporated in our English pharmacy. How effectually this desire has been realized, will be shown by the accompanying selections from the lists of new medicines used in the Dispensaries†. The most extended list is that supplied by Dr. Davis, of Patna, the zealous author of the statistical account of that city. He has given the names in Hindee and Persian, and has shown where a corresponding English name is wanting, and a glance down his columns proves that 232 native medicines are unknown to our English pharmacy, and the native sub-assistant surgeons supply others. The latter, in their reports upon the compound metallic native medicines, show a very respectable knowledge of chemical analysis; for they themselves, when dissatisfied with the accounts of native physicians, of their process of preparing their medicines, test their accuracy by analysis. In one instance Ram Narrain Doss, of Cawnpoor, exhibits not only his botanical knowledge, but his power of delineation, by sending a scientific description and correct drawing of a plant producing a new medicine, the sha-pussund, a convolvulus, the seeds of which have the same purgative property as rhubarb. He gives an analysis also of the seeds. The drawing accompanies this paper. Dr. Balfour, of Agra, reporting on the conduct of Omachurn Set, on the 31st January, 1841, says—

"All the above, marked as quotation, is from the information of the sub-assistant surgeon, and is furnished generally in his own words. I am happy to be able to continue to report favourably both on his attention and the success of his practice, as it has fallen under my observation. He has, as will be seen above, introduced a considerable number of native remedies into the Dispensary practice, the most useful of which undoubtedly are the blistering flies, and the turbuth, which is now used in large quantities as a substitute for jalap, and will greatly reduce the expenditure of that drug. The most perfect confidence appears to be placed in the sub-assistant surgeon by his patients—they come from very great distances, and are many of them of a most respectable class—and it is no uncommon thing to see one who has been cured return, bringing with him a sick comrade or relation to introduce him to the place. They also return when afflicted themselves with different ailments or a return of the former one. With all the success of the Dispensary, there has been no driving or urging of patients to attend; all that has been done has been to extend the knowledge of

* Sarva Churn Dutt.—His own words.

† It is found inconvenient to insert these lists in the Journal of the Statistical Society; but they are preserved in the archives of the Society for inspection.

the institution as widely as possible, leaving the people to come unfettered. This has answered well, and means are at present being taken by hand-bills in the native languages (which are getting ready) to spread as widely as possible in the neighbouring districts, the intention and benefits of the Agra Dispensary.

"(Signed) JOHN BALFOUR,
"*Officiating Civil Surgeon and Officiating Secretary,*
"*Dispensary Committee.*"

An inspection of the general analysis of the house and out-patients will show that there are only three cases of small-pox, and none at all of scurvy, received into the house; and amongst the out-patients only 147 cases of small-pox, and 201 of scurvy. The inference from this inspection would naturally be, that neither the one disease nor the other had scarcely any existence in India. In the one case the inference would be right, in the other, utterly wrong; small-pox being one of the scourges of India. An explanation of this paradox is afforded by the reports. I have previously stated that the reports, independently of rigid statistics, supply information regarding the superstitions, the prejudices, the customs and manners of the natives. The small-pox paradox resolves itself into a universal superstition of the people; and I proceed to solve it by reading extracts partly from the reports of the civil surgeons, and partly from those of the native sub-assistant surgeons. I will not here distinguish the one from the other, leaving it to the Section to determine from the phraseology which is the European and which the Native report; and, first, with regard to the *intensity* of small-pox.

"Patna, December, 1843.

"Small-pox raged epidemically as late as the early part of the last month, and we still have under treatment several who are suffering from the sequelæ; these are chiefly abscesses, ulcers, swelling of the joints, &c. If the present year be said to be more fortunate to the grown-up people, it has, nevertheless, been very inauspicious to children. If I say 2,000 of these little beings have sunk under small-pox, I do by no means exaggerate the number*."

We now come to the explanation of the non-appearance of small-pox cases in the returns, which leads at once to the painful subject of existing popular superstitions.

"Allahabad, December, 1843.

"Nothing causes a greater havoc among children than the small-pox—it carries away nearly half of those it affects. It is regarded as a mark of Divine visitation. The Natives are so afraid of it that they dare not administer any medicine, nay, not even to mitigate the severity of the attack, lest the presiding goddess *Setula* take offence for thus attempting to thwart the course she has appointed, and wreak her vengeance on the other children of the mother. This groundless fear has been so strongly impressed on the mind of the ignorant mother, that in many cases she does not indulge her maternal feelings by weeping over the corpse of her dear lost babe; but what cannot prejudice

* By Issar Chunder Gungobee, in his own words.

effect? During the months of March, April, and May no medicine is administered to such fever cases as had not the small-pox before previous to the four or five days; but as soon as the pimples make their appearance they are confined in a room where no air can play, and whence not a bit of the patient's dirty clothes is permitted to be removed before perfect health is restored, or death ensues. It is no wonder, then, if, under so many unfavourable circumstances, a large number of children were to die of this plague. But the train of miseries does not terminate here. Many of those who survive suffer from abscesses of the joints, blindness, deafness, scrofula, bowel complaints, &c., &c., &c.

"The people of Allahabad know not what inoculation is, nor have they any faith in vaccination. However, I doubt not that in the course of a couple of years their eyes will be open to the vast importance of the latter*."

"Jubbulpoor, September 1, 1842.

"The next disease, small-pox, raged simultaneously with the former. It was in a large number of instances extremely severe in its character, and occasioned some mortality throughout the whole district. The difficulty with which a case of small-pox may be brought to the Dispensary, and the general prevalence of superstition, debarred many to participate in time the advantages which this institution affords, the benefits of which they are so fully aware, looking upon it with grateful feelings as one of the numerous blessings from an enlightened Government. I need not state, that it is an universal belief throughout the whole country that small-pox and measles are of super natural origin, and that all medical interferences during its course are highly iniquitous, as they bring down the wrath of the goddess from whose hands the scourge descends. Hence it was that a very small number of applications were received during the course of the disease†."

"September 1, 1842.

"Sir,—I have the honour to inform you, that in my last half-yearly return, ending on the 31st July, 1842, the most prevailing diseases in that season were the small-pox, intermittent fever, continued fever, rheumatism, and partial paralysis. The small-pox, though it was in its contagious state in the city at that time, but very few children affected with the disease were brought to the Dispensary, because the inhabitants of every caste here, on account of prejudices and superstition, chiefly the Hindoos, never subject their children to any medical treatment whatever, from fear that the 'Mauta,' or 'Sillah,' or the goddess of small-pox, will be incensed with them; they even never bring their children out of the house, nor give admission to their intimate friends into their houses, lest the shadow of the man produce any harm to the child; consequently they leave their children to the mercy of their goddess, and allow an ignorant and low caste of people called 'Bhanguts' to interfere for them, who pretend to be as devotees of the goddess. These people do not give any kind of medicine, but vow some previous sacrifices which they make of different kinds, if the

* Jandub Chunder Dhara.—His own words.
† Dr. Ronald, Civil Surgeon.

small-pox be in its confluent state; and very few when distinct; and this is the reason that you will find no more than eight patients were brought to the Dispensary, and were accordingly inserted in my last half-yearly return. The intermittent fever always prevails in the hot season here*."

It is hence shown that small-pox, although scarcely noticed in the returns, is one of the most fatal maladies of the country; and this mortality is unhappily enhanced by the superstitions of the people.

While on the subject of superstition, I may as well add two or three other extracts, patent to our subject, which show the difficulties the European has to experience in working out his benevolent intentions; and, first, with respect to caste.

"Bhowaneepoor, January 31, 1845.

"I therefore most respectfully beg to draw the favourable attention of yourself, the Superintending Surgeon, and ultimately of the Medical Board, to my following suggestions for extending the benefit of this establishment, by removing the serious impediment that stands in the way of its active and extensive operation. I have already stated in my last report that the rooms assigned for the reception of house-patients are very small, and void of free ventilation, so essentially necessary for the purpose. There are three rooms altogether, in two of which four beds are placed, and in the smallest one only one bed. The room for the distribution of medicine, and the space for seats of out-patients, are also so small, that if even one-third of the average daily applicants enter the Dispensary at once, half of them are obliged to stand. This is the only reason why the respectable people hesitate to come in the Dispensary for medicine, where they very justly apprehend the disagreeable necessity of either standing up till they are called, or to sit down with persons *whose touch, nay, even proximity, is not only calculated to cause a disgrace, but to impose upon them the necessity of washing their body after such a contact has taken place, even if it be so by chance.*

"This notion, however superstitious, hinders many a respectable man from availing himself of the advantage of the Dispensary treatment, the superiority of which above the common quackery is unhesitatingly appreciated by them. Under the inconveniences already enumerated as regards the smallness and the limited number of the rooms, I beg leave to state, that no distinction can be made between the male and female, the Hindoo and the Mahomedan patients; more especially as the rooms are connected with each other by openings, and the one is a thoroughfare for the others. This is the only reason, I apprehend, why so small a number of patients like to be treated within the Dispensary†."

The Sub-Assistant Surgeon of the Allahabad Dispensary, writes:—

"The Hindoo villagers, who form the largest portion of our patients, both extern and intern, and who, when they come for treatment, generally bring their families with them, objected to live in the hospital bungalow, as much through the fear of losing their caste, as of being

* Chimmun Loll.—His own words, in a letter to A. Ross, Esq., Civil Surgeon, Delhi.
† Callachund Day.—His own words.

obliged to be separated from their dear ones. To obviate this difficulty, the late magistrate, Mr. R. Montgomerie, had raised a large hut, divided into seven rooms; one of these has been made the hospital cook-room, and the other six allotted to the village patients, where they lived with their families and friends very comfortably. These huts were regularly repaired by the magistrate's men, but since the departure of that functionary, they have been entirely neglected, and the late rains have brought them down to the ground. This has put a stop to the influx of many important surgical and medical cases, as well as greatly interfered with the cook's duties, and the preparation of decoctions, infusions, ointment, &c. &c. I had repeatedly brought this fact to the notice of the present magistrate, the Dispensary committee, and latterly to that of the civil engineer, but I am sorry to say with no good results. They have all acknowledged the great utility of these out-houses, yet have refused to repair them, the magistrate because he has no funds for the purpose, and the civil engineer because it is not his duty. This has been a serious loss, and I fear the Dispensary will have to suffer on its account. It having already sustained a loss of 58 patients, last time there were 152, whereas there were 92 only this season.

"The people of Upper Hindoostan are still so strongly prejudiced against female freedom and female happiness, that they always take the best care to keep their wives and daughters in the innermost recess of their cooped-up houses; they have no faith on each other, and consequently none of the other sex, but such as belong to the family, can have an access to the family part. When sick of the ordinary diseases, I mean when not very dangerously ill, they must be treated by the history of the case as described by some of their male relatives, otherwise the physician is permitted to feel the pulse, by which guide alone they must be treated. It is no wonder then that for the diseases of the urinary and the generative organs they should invariably have recourse to nurses and old grandmothers. The very few who apply to the Dispensary come not before the disease has advanced to a fatal extent. A very large number of women suffer on account of this over modesty and groundless shame from difficult parturition and its sequelæ. The country nurses, who are proverbially ignorant, and who know nothing of the organs they deal with, or of their functions, natural or as modified by circumstances, but are nurses only by birthright, are called in on all occasions of parturition; but these, instead of assisting the parturient female, treat her so roughly, and that so frequently, and relate to her so many frightful tales, to shorten as they believe labour pains, and to quicken delivery, as to depress her spirits entirely. Thus a most easy and natural phenomenon is often converted into a most troublesome and hazardous job. The Hakeems have no medicines to expedite delivery, neither do the people approve of the plan of administering medicines to pregnant women.

"The next source of female misery lies in the belief in ghosts and evil spirits. The nervous diseases are all regarded as signs of the patient being influenced by *bhoot* or ghosts, recourse is therefore invariably had in all such cases to blowing *munters**, and suspending amulets.

* Charms.

"*Mithooa*, so called from a false notion that the disease arises from the excessive sweetness, or *mithæ*, of the mother's milk. It is a very fatal disease. It greatly resembles the *tabes mesenterica* of the European authors, I say resembles, because I have not yet had an opportunity to identify the two diseases by *post mortem* examination. *Mithooa* is characterized by the same wasting of the body, tumifaction of the abdomen, presence of a slow fever, disordered state of the bowels, and, lastly, consumption and death. A combination of two savage customs has contributed to make this disease so common in this country, and the extreme poverty of the people has made it so fatal, at or about the second month of its infantile life, every child is made to take opium, wine, or any other narcotic drug to lull it into sleep—this unnatural and cruel practice has gained so firm a footing, in this city in particular, that even the rich mothers, who can easily afford maid servants for their children, nay, who have them already, indulge in it frequently. I have repeatedly explained the evil consequences of such a dangerous proceeding, and so has Dr. Beattie (who was ever anxious and always ready to promote the interest of the Dispensary, and to convince the people of the superiority of the Dispensary mode of treatment over the native quackery,) often done to give validity to my assertions, but I fear with no very good or great results. The ample opportunity afforded to the mother by this inhuman course, and the very few number of times she is required to suckle the child, induce her soon to overlook the evil and dangerous consequences, and to resume her task of destruction*."

"Mooradabad, January 31, 1845.

"Although the people as elsewhere well know the benefits they often derive from the Institution, from the circumstance of numerous difficult and hopeless cases being cured daily; yet why they do not resort to it at the commencement of their sickness is a matter much to be wondered at. They seem to entertain a deadly fear of the knife. Another circumstance to be noticed, is that the female sex, when they become attacked with a fatal or trifling disease, are never allowed to appear before a physician. Whenever I am called upon to attend them, the pulse is the only guide by which to ascertain the extent of their disease. The people, whenever they are attacked with any disease, often bring with them their urine for my inspection. The inspection of urine being considered as a safe and certain guide to ascertain the nature and extent of every disease†."

It will thus be seen that there is no ordinary difficulty in administering to female ailments, from the determined exclusion of the women of many classes: and caste, and superstitious usages add to the difficulties the European medical man has to encounter.

I now submit extracts from various reports; one from the Statistical Report of Dr. Davis upon Patna; one relating to meteorology; another containing sensible observations on burial-grounds at Benares; another on strokes of the sun; an entire but short report from a European civil surgeon, for comparison with native reports; one upon drainage; and finally, an extract, illustrative of grammatical phraseology.

* Sub-Assistant-Surgeon Jandub Chunder Dhara. † Tara Chand Pine.

Respecting the inhabitants of Patna, Dr. S. Davis writes:—

"The habits, education, morals, and customs of the inhabitants of the city are in many respects better than those of many of the great cities of India. There is less of religious parade and intolerance amongst the Hindoos; and the Mussulmans (though very numerous) are greatly shorn of that arrogance which has clung to their character and manners, more or less since the Mahomedan conquests: this doubtless arises from the circumstance of there being but few families of either nobility or large property, and consequently few priests to minister to their vanities and weaknesses, for 'wherever the carcase is, there the ravens will be.'

"I have before said that the city impresses the enquirer with the idea of active industry, and it is chiefly by the exercise of this that the large population is supported. As regards education all that can be said is, that as a certain quantity of learning is necessary for bunyas and shopkeepers, there are few, except the poorest of the labouring classes, who cannot read and write, and but few who have higher acquirements of a scholastic character than this, if we except a class of men who are brought up with a view of exercising their talents as Omlahs in the different Courts, and a few others who are in the course of education at the Government School. Amongst the former are some learned in oriental literature, but by far the greater part are Utilitarians, and acquire only that measure, which will come into actual play, and turn to account. The Government School having been established but five years, it is difficult to say what will eventually be the effect of it; but when we consider that the great inducements to learning are profit, either in the shape of money, station, or fame, and the little chance the *élèves* of these establishments have with those who have been spending their youth in acquiring an intimate acquaintance with the actual practice of the Courts, and are, as it were, ready-made Omlahs, I think the chances are, that those who merely look on the profit side of the question will give their sons an education, which will fit them for immediate employment at Patna. The Government School has never been a popular institution. At first there was a feeling that it was intended to alienate the children from their paternal faith; then again, the system was not considered sufficiently utilitarian, so that comparatively but few of the respectable natives encouraged their children to attend it. Time will doubtless wear away their feelings, and we may yet hope to see knowledge spread its root and branches far and wide.

"With respect to the morals and customs of the citizens, it is difficult to form any rational conclusion, on account of the exclusive mode of life of both Hindoos and Mussulmans, except that inasmuch as industry prevails, immorality (which is the offspring of idleness) usually declines. In a population of upwards of three lacs there must be much immorality, and in crowded cities drunkenness is generally a crying evil. It is to be lamented that there are many facilities for indulging this vice: the city is surrounded with toddy trees; and in addition to the produce of these, intoxicating liquors are prepared from molasses, *mowa*, and other articles; but notwithstanding this, I do not think that the inhabitants generally are intemperate, though in a city of such magnitude, the consumption of country wine and spirit

among the lower classes must be considerable. The grosser vices of bloodshed and theft appear to be less frequent than in other districts, owing probably to the full employment which every one willing to work may obtain for his time; and on the whole the population may be classed as industrious, with fewer of the prejudices than exist among the village population generally. There is nothing peculiar to notice in their customs, and I shall proceed to a slight review of the state of the public health.

"The province of Behar may be considered as favourable to health as most parts of the Continent of India, and the diseases I have mentioned as frequently met with at Patna cannot be considered as proof to the contrary. The objects of some of them are outcasts from their families and homes, and are brought together here from the surrounding districts, by the common desire of exciting the commiseration of the wealthy and humane.

"As in all crowded cities epidemics occasionally appear, and spread devastation around them; and during the eight years of my residence I have seen several severe visitations of cholera and remittent fever, the former usually making its appearance at the commencement of the hot winds. There is often in April and May, an indescribable but well understood state of the atmosphere, accompanied with variations in the wind, and a hazy and sultry appearance that is favourable to the production of the former very frightful disease. During such weather you find vegetation blighted by impalpably small animalculæ, which elude the perception of the naked eye, but are easily discerned by the aid of miscroscopic instruments.

"I have long thought that cholera and some other diseases have their origin in animalculine blight, and late writers have brought together so many facts bearing on the subject, that this opinion gains ground with me daily, nor is the circumstance of diseases spreading more in crowded cities than in smaller localities at all contrary to this theory, since there are so many more points of attraction or deposit. The state of the atmosphere is without doubt greatly modified by the locality over which it ranges, and in situations favourable to the production of disease, it is not unreasonable to conclude that a peculiar state of it is attended by a vivifying influence which brings into existence poisonous animalculine exhalations capable of producing maladies in those who may be obnoxious to it, either from congenital or induced debility or other idiosyncrasy. Those visitations are not of very frequent occurrence here, but the district to the south of Patna is rather low and swampy, and I think *cæteris paribus* rather favourable to the production of this pestilence. The same theory may perhaps be applicable to remittent fever, and the difference between the diseases accounted for, either by the quality or dose of the poison. The fevers of this part of the country are, however, much more manageable than the bilious remittent of Bengal, and partake more of the nature of inflammatory fever, as the remissions are very imperfect, and the Hepatic system is less deranged. Nineteen cases out of twenty yield to active and prompt medical treatment; but where this is neglected dysentery frequently ensues, and brings about a fatal termination. Rheumatism is very common, and difficult of cure, and a very great

many cases of cataract occur in men and women between the ages of 50 and 70: the operations for this disease at the City Dispensary are very numerous and successful.

"On a general review of the state of the population of Patna, as respects health and disease, I have little to suggest. It would be very desirable if the inhabitants were spread over a larger surface, but as this is almost impossible to accomplish, the greatest safeguard to health will be proper drainage, and the prevention of accumulations of filth. I have mentioned that the land to the southward of the city is in many parts very low, but although low, most of it is above the level of the river during the months of October and November, and might, without any great difficulty, be drained into it by one or two judiciously placed canals; this would probably interfere with the proprietary rights of a few zemindars, as the water is dammed for the purpose of irrigation; but this might be settled without much difficulty. If this plan were carried into effect, it would be necessary to have water on the side of the river to prevent its ingress during the rains, and in addition to these a pucka drain on either side of the main street communicating with these canals should be made, by which means the whole city and suburbs would be effectually drained. I cannot help thinking that this would materially add to the healthiness of the city, as I consider the fevers at the close of the rains to arise from pestilential exhalations from the low marshy land to the south, brought into a state of activity (if not of vitality) by a peculiar electrical state of the atmosphere, which occasionally prevails at that season; for it is a well-known fact that the residents of the high banks of the river suffer less than those of its southern environs. In respect to the many loathsome objects who are continually wandering about the streets of Patna, it is a great desideratum that some asylum should be provided for them, not with a view to their cure, for it is unlikely that more could be done for them in that respect than they have the means of attaining by application at the Dispensary, but in affording them food and shelter and a little clothing during the cold weather. It may be urged that these poor creatures are more the objects for private charity than for the consideration of Government; but when we see that, notwithstanding the liberal exercise of this, hundreds are outcasts from their family and homes, without food or clothes, and too much crippled by disease to obtain either by their own industry, it surely becomes a benign Government to find them shelter and protection. Even under the Native Governments, *Serais* were established and maintained, and endowments were given for charitable purposes; and it is difficult to contemplate their enlightened successors retrograding in charity and protection. The same state of things exists, I presume, in all the great cities of India, and a small appropriation of the many funds at the disposal of Government would put an end to it and prevent the unsightly perambulations of these pitiable but disgusting beings. The Ferry Funds are rich and unappropriated, and a 'Refuge for the Destitute' might be formed from them, which, under proper management, would be a real charity."

The half-yearly report of Sub-Assistant-Surgeon Jaudub Chunder Dhara, after giving a succinct chronicle of the state of the atmosphere

and of disease, together with the operations of the Allahabad Dispensary during that period, terminates with the following observations by Jaudub Chunder Dhara, Sub-Assistant Surgeon.

"In conclusion, I beg to bring to the notice of the Board the happy and wonderful effects of the nitrate of silver, in a species of skin disease very common in India. It is characterised by the discoloration of the skin, in small patches, with loss of sensibility in the parts. The lips, palms of the hands, and soles of the feet are most frequently attacked, but the rest of the body is not entirely free from the affection. It begins in very minute white spots, which gradually expand till they occupy a larger surface. The disease is not attended with any pain or constitutional irritation; the patients enjoy pretty good health, and think of medicine, because the spots look bad, but especially because it is deemed by the natives the result of some first-rate sin committed in a former life.

"The Hakeems reckon seven different species, but I have remarked only two; one proceeds rapidly, and puts out of colour nearly the whole cutaneous surface, but the other is mild, and scarcely becomes larger than a Company's rupee. It is to this last species that my experiments have been confined.

"The immediate cause of the disease is, I believe, the want of fresh secretion of the *rete mucosum*, consequent on debility of the secreting organs. The Hakeems have no cure for it, and I believe the disease is not known in Europe.

"The nitrate of silver removes these patches pretty quickly, and I think permanently too. It should be applied lightly to the spots from eight to twelve times, with an interval of five days between every two applications, to let the stain of the first wear off, before the second application is made. When the patches are first touched with the nitrate of silver there is, generally speaking, no pain felt, but after they have become redder and smaller there is a slight tingling sensation perceived.

"The healing commences from the circumference, and proceeds towards the centre. It is quick at first, but becomes more and more dull as the spots are reduced nearer to their original size."

The Superintendent Surgeon adds:—

"In appending a few observations to this half-yearly report of Sub-Assistant-Surgeon Jaudub Chunder Dhara, I have much pleasure in stating, for the information of the Medical Board, that his conduct has been most exemplary during the last six months, and such as to merit my approval in every respect.

"From his excellent qualifications as a medical practitioner, zealous attention to his profession, and great success in his treatment of the numerous sick submitted to his care, he has inspired general confidence and respect.

"In the performance of surgical operations he exhibits coolness, dexterity, and judgment.

"The conduct of apprentice Lalla merits my approbation, and I intend shortly to send him before the Medical Committee at this station for examination as to the progress he has made in his studies. I regret to say that the other apprentice, 'Chunnee,' has not given satisfaction, and I have been obliged to dismiss him, and am looking

out for a substitute in his place; being a high caste Brahmin, he objected to touch a dead body."

The following notes on the burial-grounds of Benares, by Issar Chunder Gangooly, brings to light a most serious evil:—

"Benares, January 31, 1844.

"The liberal disposition with which suggestions are received by my superiors, emboldens me to bring to their notice the existence of another evil in Benares, which is productive of serious mischief, I mean the indiscriminate appropriation of grounds for burying the dead. I have counted 150, and some of my acquaintances say there is as many more, of these elevations of grounds, called takias, in and about Benares; and as the poor do not mind to bury the dead deeper than they think it necessary, a few years' rains expose them to the action of the atmospheric heat and air. The incalculable mischief which such an exposure might be productive of, can be known only to those who have witnessed the rapidity with which decomposition of animal matter takes place under an Indian sun of April and May. Were I to deal widely in hypothesis, I might with every plausible reason attribute the occurrence of epidemic cholera to this source. Effluvia from putrid dead bodies (emanating from the burial-grounds from accidental causes) under favourable circumstances, has been known even in Europe to nearly depopulate a number of villages, and that in India it will produce similar effects, but of an aggravated nature, is matter of no surprise."

A feature of Indian society not less deplorable, is that mentioned by Nilmoney Dutt, in explanation of the excessive mortality in the Pooree Dispensary:—

"This mortality, as occurring in a well-appointed public institution, is at first sight appalling; but when it is considered that the admissions are principally pilgrims to the shrine of Juggernauth, who are lifted from the road-side in a dying state, as was fully explained in the report of the last half-year, such a ratio of deaths so treated cannot occasion surprise, and is no wise attributable to mismanagement on the part of the Dispensary officers."

The Agra returns contain interesting notes by both the European and the Native officers; and the following observations on the use of Dispensaries, by Omachurn Set, are well worthy of perusal:—

August 9, 1842.

"I am glad to observe that the benefits of the Dispensary are now beginning to be better known and appreciated among the people than they were formerly. On reference, however, to the monthly returns, it would be found that the surgical diseases predominate vastly over the medical ones, a circumstance proving clearly the greater confidence they place in our treatment of the former than that of the latter classes of diseases, still it is not uncommon to find even the most respectable natives to have recourse to us for the treatment of medical complaints when the Hakeems failed in curing or affording the relief sought for. Those who have never used any European medicine seem to entertain a deadly dread of their strong action, and are not inclined

to take them, (though they might not have any objection on the score of religion,) if they could afford to buy from the Hakeem's shop the ordinary native medicines, which are said to be mild, and often perhaps *too mild* in their action, though usually grateful to the palate. The sick poor, however, seem to place an unbounded confidence in our treatment of both medical and surgical diseases. This is to be attributed partly to their being unable to purchase the native medicines from the Hakeems, partly to their being much less influenced by religious prejudices, which exercise so powerful a tone of authority over the thoughts and actions of the higher classes; but I believe, in a great measure, to the past experience they have had of the benefits of the European plan of treatment since the establishment of the Dispensary. The state of notoriety to which the Dispensary has already been brought into since its commencement would, it is to be hoped, work its way on the scruples and prejudices of many, which are still forming so formidable an obstacle to a more extensive distribution of medical relief."

Surgeon Shaw, at Agra, observes:—

"The season I consider to have been particularly healthy; there has been no epidemic—measles prevailed to some extent, but was of a mild character and seldom proved fatal. At one time small-pox was said to be in the city, but did not extend towards the middle and end of the hot winds; intermittent and remittent fevers assumed rather a formidable aspect, and carried many to their long homes. The additions to the list of applications for relief were not much increased by it. Those for local and surgical diseases were much more extensive than for medical, although there was a very fair show of the latter. The advantages derived from surgery are much easier demonstrated than those from medicine, and come more readily within the scope of a native's comprehension."

With reference to the obstacles to their acceptance of relief presented by the habits and customs of the natives, he adds:—

"Besides, a native is by no means given to follow the *post hoc ergo propter hoc* belief as far as regards cure by European medicine, however he might be induced to follow it after the charms and incantation of the Hakeem. There is, however, another reason which influences them. A native when ill has a great disinclination to be removed from his house. He cannot cook his own food, or wait upon himself. His caste acts as a bar to his being waited on by strangers, and therefore if he moves must necessarily bring along with him one or more of his relations; this of course is a serious evil to his household, and he prefers lingering on in his disease to seeking a cure at a distance. To this may be added the prejudices which already exist in his mind in favour of his native remedies. In most surgical diseases these objections do not exist. It is principally the poorer class of natives that flock to this charity for relief, and to them it is more satisfactory to afford it. They seek it with avidity, and receive the benefits with sincere thankfulness. It is, however, not infrequent for the better classes to apply, especially when their own remedies have failed."

Drainage.—Calcutta.

"*Roads, Streets, and Drains.*—While attempting to trace up by the increased prevalence of particular diseases in certain localities, to the nuisances therein located, with a view for their ultimate removal, we should not overlook a subject that is intimately connected with the health and comfort of the inhabitants of the suburbs in general, and perhaps of the city itself. I allude here to the bad state of the roads, streets, and drains throughout the suburbs, but more especially of those that are in the same lines with the prevalent winds. There can be no doubt that these at present exercise a considerable influence on the public health of the suburbs, and that an improvement on the former will be followed by a better enjoyment of the latter. But it is too well known to be here adverted to, that our mofussil roads and streets are very badly off, both as to their construction and cleanliness; and the drains here, instead of serving the purposes for which they were constructed, serve chiefly as reservoirs for filth and water, and thus generate those unseen particles termed *malaria*. These, with the dust from the roads, are carried off in the atmosphere, and conveyed through it by the prevalent winds northwards during one half year to the city, and southward to the district during the other, and thus become the fertile sources of disease in both. Hence the importance of paying more attention to the subject, cannot be too strongly urged to the notice of those that have the public management of them*."

Food of the Natives.

"Gyah, Feb. 1, 1845.

"The number of deaths that we had this year from diarrhœa is acoounted for by the people of this country living chiefly on *Sattoo*, parched gram, a coarse kind of flour and other indigestible vegetable food, which by continued use excite a kind of chronic irritation in the stomach and intestines, producing symptoms of dyspepsia and diarrhœa, which the poor people neglect till they are unable to go on without medical assistance, then they come to the hospital with the disease too far advanced, and with œdema of their extremities, and at that time medicines can do very little for them.

"Shamachurn Sircar,
"*Sub-Assistant Surgeon.*"

"Patna.

"The prevailing complaints were fevers, spleen, diarrhœa, dysentery, &c. The Native Medical Officer observes, that 'bowel complaints in this district of the country depend more upon the irregularity of food which they (the people) live upon, and the water they drink, than upon climate.' Cholera, he reports, had raged in the city with violence during the months of May, June, and July last. The surgical operations performed by him have been numerous.

"Ram Eshur Awasthee."

This series of extracts shows that the young men did not confine themselves to the mere mechanical performance of their professional duties, but that they took comprehensive views of the means of making

* Observations on Drainage, by Callachund Day.

their own knowledge more generally useful, and they have advanced their reputation and the good of the State by so doing.

There are returns of vaccination and cholera, treated in the cities and districts, but as they do not come under strict Dispensary practice, I abstain from noticing them.

Lucknow Hospital.

The King of Lucknow, in imitation of the liberality of the Company's Government, established in Oude a charitable hospital for the sick; but of this it is unnecessary to speak.

Calcutta Hospital.

The Calcutta Hospital is entirely independent of the Dispensaries previously noticed, and with its dependent Dispensaries, relieves annually an amazing amount of suffering. The return is—

Relieved.		Funds.	
1842.	1843.	1842.	1843.
294,885	307,112	403,338 Rs.	419,838 Rs.

With one or two words on the estimation of the character and abilities of these sub-assistant surgeons by their superiors, as typical of their general estimation, I close my notices of Bengal.

Mr. Macintire says of Shamachurn Dutt:—

"January 31, 1845.

"To the foregoing Report I have only to add, that the general and professional conduct of Sub-Assistant Surgeon Shamachurn Dutt, continues such as to merit the highest commendation which it is in my power to bestow. He is respected not only by such Europeans as know him, but by all classes of his countrymen in and about Jubbulpore, whose confidence in him as a medical practitioner is increasing in a very pleasing manner, considering their ignorance, superstitions, and deeply-rooted prejudices. In fact, the institution under his professional charge has turned out to be a real blessing to the native population of this part of the country.

"(Signed) J. MACINTIRE,
"*Civil-Assistant-Surgeon,*
"*and Superintendent of Government Dispensary, Jubbulpore.*"

And Dr. Cumberland could shew his confidence no further than by putting himself into the hands of Nilmoney Dutt, to be killed or cured, as he relates in the half-yearly Report of the Government Dispensary at Pooree, February to July, 1841, from which the following are extracts:—

"A scarcity of grain has prevailed for many months past, and the same still continues, although the disease has ceased.

"There can be no doubt, however, that the scarcity has been the chief cause of the excessive mortality attending the disease. The grain that the poorer class of people consume, is of a very coarse and inferior quality, and they eked out a scanty meal of this, with such indigestible herbs and roots, that they do not eat at other times. the irritable state of the intestinal canal thus induced, rendered them pecu-

liarly liable to an attack of cholera, while the debility attendant on long-continued poor diet rendered them ill able to bear up against the disease.

"Sub-Assistant Surgeon Baboo Nilmoney Dutt joined on the 17th May last. His conduct has been very good in every respect. With regard to his qualifications, I cannot say more than that I entrusted myself with confidence to his care, when labouring under an attack of bilious remittent fever, and have every reason to be satisfied with his prompt and judicious treatment. The conduct of the two apprentices still continues to merit my warmest approval. They have lately had many trying scenes to encounter, particularly when there were 140 patients in hospital at once, most of them suffering from cholera. These youths were constantly in attendance, both night and day, for weeks together.

"*Pooree, August* 1, 1841." "R. B. CUMBERLAND.

Of Madras and Bombay I shall say little, for there is little to say.

The following, however, shows that Dispensaries were authorized for Madras, but I know nothing of their working or usefulness. It is an extract from a Public Letter to Fort St. George:—

"December 8, 1841.

"We sanction the formation of Dispensaries in the towns of Trichinopoly, Madura, Masulipatam, Nellore, Bellary, and Cuddapa, as an experimental measure, in the manner proposed; but we desire that no others may be established, until we are informed of the expense, and are satisfied with the results of those now sanctioned.

"On the establishment of these Hospitals, ample opportunity of instruction should be afforded to such Native students of medicine as may be in a condition to avail themselves of such an advantage."

Dispensaries subsequently authorized.

One on the south side of Madras, for the benefit of the poorer classes of the inhabitants of Triplicane, Royapettah, St. Thome, and the adjoining villages; also at Salem, Calicut, Vizagapatam, and Kurnaul.

In Bombay the Dispensaries are under the European medical officer, and not, as in Bengal, under a sub-assistant surgeon. The Bombay system is adopted at Madras, The judge and magistrate to allot a public building, or to hire one. *Not indiscriminately* open to every patient. The Native inhabitants with the ordinary diseases not to be admitted as *in*-patients, but accessible for advice and medicine to all *out*-patients. European superintendent to have fifty rupees per mensem. Each Dispensary to have ten barrack-cots, matrasses, pillows, and twenty quilts. Each to have a second dresser or assistant. To be inspected by the magistrates and superintending surgeons. When females apply, a separate ward to be allotted to them.

There are not any returns from Bombay.

In conclusion: it has been contemptuously said, and is still said, that in case the Company's Government in India were swept away, not a monument of its existence would remain to attest its former state

and power. No doubt the Governments that have preceded the British in India have left sufficient proofs of their existence. The early Buddhist and Hindoo authorities have, indeed, left prodigious monuments of their wealth, of their power, of their perseverance, and of their religious enthusiasm, in their mighty cave temples and vast religious edifices. The Mahomedans, too, have studded the land with their magnificent mausolea, testifying rather to their pride than their piety. And what have the British done? I say we have raised greater and more lasting monuments than all these. One small extract from a report of a Native sub-assistant surgeon shall justify my assertion; he says.—

"Delhi, August 1, 1841.

"One boy, about twelve years of age, who had been blind from cataract in both eyes from the age of two years, was operated on by couching and restored to sight*."

I affirm that this faculty, given to a single native, to perform the God-like office of restoring the blind of his countrymen to sight, is a more glorious monument than all the works of art that human pride or human ambition have ever burthened the earth with; but when we find scores of such individuals endowed with such a faculty, and thousands, nay, tens of thousands, possibly the recipients of the blessings they can confer,—when we find the Medical Boards of the Bengal Government reporting to Government on the 22nd August, 1843,—

"We have every reason to believe that the benevolent intention of Government in founding these institutions has been fully realized—and we feel confident that future annual results will add to the intrinsic value of the Dispensaries, which are so well adapted by their internal economy to obtain the confidence of the native inhabitants.

"Many have had their sight restored—others have been cured of hydrocele—and relieved when in the last stage of dropsy. Several have also derived effectual relief from the successful operation for stone in the bladder. A few have been saved from a miserable death by the amputation of diseased members, and large tumours have been removed.

"Such operations could not have been achieved by native practitioners, without producing an impression on the minds of the most apathetic natives, and they must tend to spread far and wide the value of the Government Dispensaries."

Then, I say, and with a thorough conviction of the truth of my assertion, in case the seeds of knowledge we have thus sown fructify to a general and luxuriant harvest, that we shall have left a monument with which those of Ashoka, Chundra Goopta, and Shah Jehan, or any other Indian potentate sink into insignificance; and their names shall fall on men's ears unheeded, while those of Auckland, as projector, and of Goodeve, and Mouatt, and others, as zealous promoters of scientific Native medical education, shall remain embalmed in the memory of a grateful Indian posterity.

* Sub-Assistant Surgeon Chimmun Zall.

TABLE I.—*Showing the Admissions and Deaths among the Out-Patients treated in the Charitable Dispensaries of Bengal and the North-Western Provinces.*

Number of Half-yearly Reports.	Dispensaries.	Urethral Calculi.	Of the Digestive Function.					Of the Respiratory Function.	Of the Sanguineous Function.																							
					Cholera.				Febris.				Inflammatio.			Hepatitis.			Opthalmia.			Dysenteria.		Rheumatismus.				Syphilis.					
			Colica.	Diarrhœa.	Bilious.	Spasmodica.	Icterus.	Asthma.	Intermittens.	Remittens.	Continua.	Phlegmon and Abscesses.	Cephalica.	Thoracica.	Enteritica.	Acuta.	Chronica.	Splenitis.	Acuta.	Chronica.	Catarrhus.	Acuta.	Chronica.	Acutus.	Chronicus.	Variola.	Phthisis Pulmonalis.	Scrofula.	Primativa.	Consecutiva.	Elephantiasis.	Scorbutus.	Gangrena.	Ulcus.
4	Bhowanipoor	2	327	217	8	28	19	61	523	79	435	1253	20	14	24	5	32	291	94	220	172	111	130	137	1573	..	..	23	659	196	39	..	11	1065
6	Moorshedabad....	..	310	193	31	23	..	103	1706	7	10	542	6	248	5	1	4	606	6	179	21	1	285	3	1638	..	..	7	463	195	36	..	4	1255
6	Pooree, Juggernath	..	26	269	6	319	1	1	497	13	..	92	2	3	17	..	1	21	21	29	33	309	285	82	167	3	..	1	219	128	7	..	3	493
5	Chittagong	..	25	216	313	85	6	226	1009	16	253	248	..	402	..	5	69	292	76	119	237	112	92	251	1308	3	44	46	157	228	69	2	2	913
6	Dacca	..	489	351	271	234	9	194	1699	253	786	337	106	97	36	23	19	1359	132	101	224	196	67	599	1032	3	16	18	483	438	55	..	13	1200
6	Patna	..	68	1403	69	176	22	606	989	59	424	898	178	5	4	87	287	904	414	143	1179	975	189	5046	1647	3	26	167	1515	514	146	14	6	1670
6	Benares	..	258	1277	460	326	179	446	1732	1308	314	2887	15	30	14	148	195	1129	705	880	894	765	647	1206	1418	75	63	499	3126	2572	273	46	270	1724
6	Allahabad.....	..	348	1103	16	51	12	512	1589	757	1307	1107	..	193	17	.5	24	529	188	478	611	145	338	138	1299	47	16	91	1069	894	12	6	69	1728
2	Furruckabad	..	18	257	1	..	..	9	173	18	162	193	8	6	..	1	9	38	11	24	39	72	56	70	149	..	5	9	121	71	..	..	..	397
6	Cawnpoor	..	238	214	12	..	4	136	325	649	5	484	..	38	..	..	7	68	44	171	327	18	151	47	1769	..	..	51	614	683	3	..	1	876
6	Agra	..	171	557	4	218	1	288	1521	7	134	373	..	..	..	..	23	195	99	229	..	..	110	..	2800	1	3	52	1359	440	1	..	1	2156
2	Muttra	..	59	408	..	33	4	28	265	8	248	327	..	..	..	..	..	59	12	200	455	13	105	..	319	..	..	39	113	39	..	..	..	411
6	Delhi	..	354	327	..	..	3	428	2617	282	683	122	16	79	151	1	28	414	109	271	3	20	390	74	1202	8	..	32	633	236	8	2	1	950
6	Bareilly.....	..	750	1189	4	20	19	397	1739	472	1924	859	11	42	6	.11	1	51	664	83	1909	592	3	961	1708	..	1	49	1642	137	1	131	7	3695
5	Moradabad	..	182	301	21	6	5	33	1591	46	17	142	5	317	27	4	23	66	66	203	20	21	52	196	779	1	1	31	231	259	4	..	8	723
1	Shahjehanpoor ..	..	86	42	2	..	..	17	163	4	1	59	..	1	1	..	2	9	14	59	127	25	19	40	135	..	8	26	33	32	1	..	..	157
4	Jubbulpoor	..	79	524	3	230	3	167	1578	394	13	358	1	79	4	1	..	341	54	359	142	116	118	90	858	3	4	17	206	262	3	..	1	810
	Total	2	3788	8848	1221	1749	267	3714	19716	4374	6716	10281	368	1554	306	292	724	6365	2707	3748	6393	3491	3037	8940	19801	147	187	1158	12643	7324	658	201	396	20153
	Died	..	1	203	119	419	3	13	44	35	18	5	2	12	3	1	3	62	2	2	3	123	160	5	10	7	9	3	8	6	2	..	14	20

TABLE I.—*continued.*

Number of Half-yearly Reports.	Dispensaries.	Of the Nervous Function.							Of the Sexual Function.	Of the Excrement Function.									From External Violence.										Allt Morbi	Total.	Died.	Cured.	Relieved or Absconded.	Expenses for the Half-year ending 31st Jan. 1845.
										Tumores		Hydrops.									Vulnus.													
		Mania.	Cataracta.	Tetanus.	Chorea.	Epilepsia.	Apoplexia.	Paralysis.	Gonorrhœa.	Bronchocele.	Tumores.	Anasarca.	Hydrothorax.	Ascites.	Hydrocele.	Dysuria.	Lepra.	Psora and Herpes.	Contusio.	Luxatio & Subluxatio.	Incisum.	Sclopetorum.	Anguinum.	Ambustio.	Fractura.	Concussio Cerebri.							Rupees.
4	Bhowanipoor	23	87	6	9	12	23	86	278	3	44	106	..	24	19	13	205	1001	230	47	185	8	2	16	21	..	2622	12838	11	8271	4556	1185
6	Moorshedabad....	21	..	..	6	4	..	27	333	7	24	45	..	10	24	23	22	1289	20	147	88	..	..	20	8	..	2723	12731	16	6404	6311	1009
6	Pooree, Juggernath	23	7	..	1	4	..	2	63	..	9	148	..	7	8	1	24	238	17	9	36	..	..	..	20	..	471	4136	560	2236	1340	1969
5	Chittagong	20	54	..	..	74	12	87	576	30	54	45	4	54	16	12	164	1814	127	22	481	..	..	..	15	..	7478	17963	15	11468	6480	1021
6	Dacca	59	53	5	7	19	..	43	264	21	35	21	8	73	34	16	157	1233	64	41	94	..	..	11	36	..	4069	17905	207	13789	4309	1161
6	Patna	14	190	1	..	11	..	222	617	296	24	142	1	54	141	3	189	2420	171	6	39	15	..	49	6	3	5629	30134	124	22855	7155	1749
6	Benares	92	76	31	7	29	34	285	1496	94	463	233	7	185	723	401	320	2394	115	240	322	4	20	125	315	1	2113	36006	177	22638	1391	1865
6	Allahabad.....	26	149	10	13	34	4	74	656	8	45	141	..	75	65	61	312	2066	89	5	144	..	2	37	22	..	4704	23523	167	13824	9532	1770
2	Furruckabad	..	2	..	..	..	5	3	48	3	11	10	..	6	2	22	6	189	..	2	2	..	..	1	..	..	902	3061	1	1864	1196	1037
6	Cawnpoor	13	..	..	..	15	..	20	258	..	47	16	..	53	54	34	124	1022	245	14	110	..	..	..	13	..	2088	11061	..	10053	1008	1547
6	Agra	10	60	..	..	27	1	97	687	..	2	13	21	34	15	23	340	2220	7	66	95	..	2	7	25	1	4556	19052	..	..	19052	1542
2	Muttra	1	..	..	..	5	..	6	68	1	2	5	..	20	1	32	41	802	1	3	4	..	..	15	..	..	968	5120	4	4396	720	1385
6	Delhi	..	37	1	2	21	1	39	547	9	29	40	3	23	15	2	191	1015	124	37	108	..	..	1	16	..	2957	14662	1	12173	2488	1236
6	Bareilly	5	8	6	1	10	1	70	388	58	28	42	..	40	6	239	106	4295	151	4	319	..	..	173	31	4	6038	31101	135	18102	12864	1393
5	Moradabad	10	13	..	13	6	..	30	147	9	19	8	..	16	22	51	57	1314	34	20	140	..	1	17	24	..	2219	9551	64	8828	659	1355
1	Shahjehanpoor ..	1	53	1	..	..	..	26	32	..	4	9	..	1	3	16	17	200	71	4	40	..	..	10	10	..	205	1776	3	1464	299	1023
4	Jubbulpoor	11	39	1	2	20	..	10	174	3	8	42	..	4	10	38	133	2126	42	18	65	..	..	10	7	..	1476	11050	90	7502	3458	1076
	Total	329	821	62	61	291	61	1127	6632	542	848	1066	44	679	1158	987	2408	25638	1508	685	2272	27	27	492	569	9	51908	261560	1575	165367	94618	23411
	Died.....	1	..	20	1	2	5	8	..	1	..	54	..	20	2	4	11	2	1	1	9	..	3	13	2	1	107		1575	..	..	..

As the determination of the diseases in 94,618 patients, who ceased to attend, could not be traced, no satisfactory results can be obtained by the insertion of the deaths under the several diseases.

TABLE II.—*Showing the Cures among the Out-Patients treated in the Several Dispensaries.*

Number of Half-yearly Reports.	Dispensaries.	Of the Digestive Function.					Of the Respiratory Function.	Of the Sanguineous Function.																								
				Cholera.				Febris.				Inflammatio.			Hepatitis.			Opthalmia.			Dysenteria.		Rheumatismus.					Syphilis					
		Colica.	Diarrhœa.	Bilious.	Spasmodica.	Icterus.	Asthma.	Intermittens.	Remittens.	Continua.	Phlegmon and Abscesses.	Cephalica.	Thoracica.	Enteritica.	Acuta.	Chronica.	Splenitis.	Acuta.	Chronica.	Catarrhus.	Acuta.	Chronica.	Acutus.	Chronicus.	Variola.	Phthisis Pulmonalis.	Scrofula.	Primativa.	Consecutiva.	Elephantiasis.	Scorbutus.	Gangrena.	Ulcus.
4	Bhowanipoor	175	138	26	13	15	21	406	60	367	1043	12	10	18	5	19	170	77	150	7	81	79	93	625	..	..	18	553	168	11	..	8	908
6	Moorshedabad	5	157	24	9	..	..	1483	5	8	504	2	22	2	..	..	102	3	75	20	..	197	2	934	..	..	1	251	103	4	..	..	919
6	Poorse, or Juggernath	18	118	6	90	1	2	319	3	..	70	..	1	11	..	..	9	12	18	20	118	130	44	66	2	..	1	135	79	2	..	..	292
5	Chittagong	10	187	94	19	4	86	584	8	221	205	..	238	..	2	45	84	61	78	202	89	53	215	752	2	18	5	126	139	..	2	2	694
6	Dacca	479	273	204	130	7	64	1383	240	744	220	82	80	29	19	8	680	108	35	186	148	55	498	702	3	1	3	315	132	7	..	8	1119
6	Patna	48	1223	62	149	12	370	876	53	401	760	169	5	2	76	174	586	353	114	1069	893	119	2687	1299	9	20	131	1264	401	56	4	3	1465
6	Benares	144	717	288	151	71	212	1189	846	125	2057	10	11	6	69	94	549	462	461	581	489	384	740	816	46	2	186	2123	1633	18	21	121	2609
6	Allahabad	213	827	16	30	4	67	1490	714	183	821	..	128	10	1	4	101	145	156	437	120	214	90	506	41	..	15	706	461	..	1	27	1172
2	Furruckabad	11	176	1	..	..	..	104	5	98	144	1	2	..	1	..	13	8	15	24	52	21	50	32	..	..	..	102	36	..	..	..	205
6	Cawnpoor	231	207	12	..	3	31	310	630	5	463	..	32	..	..	6	47	42	161	309	18	142	47	1649	..	..	32	579	637	2	..	..	810
6	Agra*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	Muttra	58	406	..	29	2	..	257	8	248	324	..	..	..	..	..	18	12	168	420	13	102	..	280	..	..	..	111	38	..	..	.	403
6	Delhi	350	309	..	..	2	207	2371	235	639	108	14	66	146	..	14	268	104	242	3	18	340	64	938	6	..	14	546	187	..	2	..	855
6	Bareilly	520	676	4	12	2	222	1070	239	1403	574	6	24	2	3	..	6	448	29	1134	336	..	512	886	..	..	2	855	57	..	132	2	2251
5	Moradabad	182	230	21	1	4	22	1172	44	15	140	5	307	20	4	20	55	67	293	20	20	43	193	769	..	..	25	225	241	4	..	8	706
1	Shajehanpoor	84	40	2	..	..	7	132	4	..	53	..	1	1	..	1	7	13	34	118	25	16	35	122	..	8	18	27	23	..	..	..	130
4	Jubbulpoor	64	422	1	138	3	1	1272	875	12	344	..	44	4	1	..	41	50	89	127	106	79	74	316	3	..	4	168	130	..	..	1	658
	Total	2592	6106	737	771	130	1312	14425	3969	4469	7340	301	971	251	181	385	2756	1965	2118	4677	2526	1974	5344	10692	112	49	455	8986	4465	104	162	180	15196

* All the cases in the Agra Reports returned as *relieved* only, and not as "*cured*;" they are therefore omitted.

TABLE II.—*continued.*

Number of Half-yearly Reports.	Dispensaries.	Of the Nervous Function.							Of the Sexual Function.	Of the Excernent Function.									From External Violence.								Ailli Morbi.	Total.
										Tumores.		Hydrops.									Vulnus.								
		Mania.	Cataracta.	Tetanus.	Chorea.	Epilepsia.	Apoplexia.	Paralysis.	Gonorrhœa.	Bronchocele.	Tumores.	Anasarca.	Hydrothorax.	Ascites.	Hydrocele.	Dysuria.	Lepra.	Psora and Herpes.	Contusio.	Luxatio and Subluxatio.	Incisum.	Scloppetorum.	Anguinum.	Ambustio.	Fractura.	Concussio Cerebri.		
4	Bhowanipoor.....	16	34	4	..	1	12	45	116	1	29	62	..	16	17	11	41	881	201	38	159	8	2	14	14	..	1269	8271
6	Moorshedabad	4	..	..	2	..	..	2	203	1	12	13	..	..	16	..	2	933	18	133	82	..	..	16	5	..	125	6404
6	Poore, or Juggernath	9	3	..	1	2	..	..	34	..	6	53	..	1	5	..	6	151	11	5	94	..	..	..	10	..	348	2236
5	Chittagong	7	2	..	..	13	5	16	345	8	27	27	..	18	6	11	1	1292	103	20	373	..	..	..	8	..	4951	11468
6	Dacca	14	30	..	6	..	..	6	121	3	34	9	4	18	29	12	8	830	60	41	88	..	..	9	35	..	3970	13289
6	Patna	9	114	1	..	4	..	74	518	116	17	86	..	28	27	..	2	2286	163	4	27	21	..	46	5	3	4451	22855
6	Benares	83	47	16	..	..	13	95	948	15	220	59	1	25	346	241	56	1660	85	155	236	4	11	88	199	..	804	22638
6	Allahabad	..	23	2	..	2	..	..	262	3	24	25	..	2	39	44	2	994	87	5	127	..	1	30	15	..	3437	13024
2	Furruckabad.....	..	..	..	..	..	..	..	14	..	8	..	..	1	2	15	..	169	..	2	..	..	..	1	..	..	551	1864
6	Cawnpoor	8	..	..	..	1	..	5	239	..	31	16	..	24	43	33	..	975	208	13	105	..	..	..	10	..	1937	10053
6	Agra*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	Muttra	..	..	..	..	..	..	..	61	..	2	6	..	..	1	..	..	661	1	3	4	..	..	15	..	..	745	4396
6	Delhi	..	15	..	..	6	..	8	434	1	22	25	2	7	10	2	9	779	57	35	106	..	..	1	12	..	2574	12173
6	Bareilly	1	1	1	..	..	..	6	183	7	19	5	..	2	3	90	..	2024	104	2	219	..	..	134	18	2	3874	18102
5	Moradabad.....	8	12	..	12	3	..	20	136	8	17	7	..	14	21	49	5	1264	33	20	138	..	..	17	23	..	2165	8828
1	Shahjehanpoor.....	..	5	..	..	..	..	18	23	..	..	5	..	..	1	14	2	187	71	4	37	..	..	9	10	..	177	1464
4	Jubbulpoor.....	3	4	..	1	1	..	1	105	..	8	13	..	..	8	21	5	1191	37	16	60	..	..	12	5	..	984	7502
	Total.....	162	290	24	22	33	30	296	8742	163	476	411	7	156	574	543	139	16277	1239	496	1785	33	14	392	369	5	32362	165367

All the cases in the Agra Reports returned as *relieved* only, and not as "*cured;*" they are therefore omitted.

TABLE III.—*Showing the Deaths among the Out-Patients Treated.*

Number of Half-yearly Reports.	Dispensaries.	Of the Digestive Function.						Of the Respiratory Function.	Of the Sanguineous Function.																															
		Colics.	Diarrhœa.	Cholera.		Icterus.	Asthma.	Febris.			Phlegmon & Abscesses.	Inflammatio.			Hepatitis.		Splenitis.	Opthalmia.		Catarrhus.	Dysenteria.		Rheumatismus.		Variola.	Phthisis Pulmonalis.	Scrofula.	Syphilis.		Elephantiasis.	Scorbutus.	Gangrena.	Ulcus.
				Biliosa.	Spasmodica.			Intermittens.	Remittens.	Continua.		Cephalica.	Thoracica.	Enteritica.	Acuta.	Chronica.		Acuta.	Chronica.		Acuta.	Chronica.	Acutus.	Chronicus.				Primativa.	Consecutiva.											
4	Bhowanipoor	..	..	1	5	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Moorshedabad	..	..	1	7	..	..	..	..	1	1	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Pooree, Juggernath	..	99	..	188	..	..	10	8	..	1	1	1	..	..	..	..	1	..	..	93	83	..	4	3	..	..	1	2	..	..	3	13	..	..	..	..	..	..
5	Chittagong	..	4	2	1	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Dacca	..	6	80	43	..	3	11	5	..	..	..	..	..	..	..	41	..	..	..	3	..	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Patna	..	24	5	23	..	1	..	1	2	..	..	..	..	1	..	14	..	1	..	9	17	1	3	..	..	..	1	..	..	..	1	4	..	..	..	..	..	..
6	Benares	..	18	30	39	..	4	2	10	5	2	1	5	..	..	3	3	..	..	..	9	11	..	1	1	2	..	2	2	2	..	1	..	..	..	..	..	..	..
6	Allahabad	..	29	..	18	1	..	1	7	3	..	..	3	2	..	..	..	..	1	..	..	42	..	1	3	6	..	1	1	..	..	7	2	..	..	..	..	..	..
2	Furruckabad	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Cawnpoor	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Agra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	Muttra	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Delhi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Bareilly	1	20	..	8	2	4	12	2	7	..	..	..	1	..	..	3	..	..	3	9	..	..	1	..	..	3	3	1	..	..	2	1	..	..	..	..	..	..
5	Moradabad	..	1	..	..	..	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	Shahjehanpoor	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	Jubbulpoor	..	1	..	73	..	..	..	2	..	1	..	2	..	..	..	..	1	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total Died	1	203	119	419	3	13	44	35	18	5	2	12	3	1	3	62	2	2	3	123	160	5	10	7	9	3	8	6	2	..	14	20						

TABLE III.—*continued.*

Number of Half-yearly Reports.	Dispensaries.	Of the Nervous Function.								Of the Excernent Function.									From External Violence.									Total.
										Tumores.		Hydrops.										Vulnus.						
		Mania.	Cataracta.	Tetanus.	Chorea.	Epilepsia.	Apoplexia.	Paralysis.	Gonorrhœa.	Bronchocele.	Tumores.	Anasarca.	Hydrothorax.	Ascites.	Hydrocele.	Dysuria.	Lepra.	Psora and Herpes.	Contusio.	Luxatio & Subluxatio.	Insicum.	Sclopetorum.	Anguinum.	Ambustio.	Fractura.	Concussio Cerebri.	Alii Morbi.	
1	Bhowanipoor	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	..	..	2	11
6	Moorshedabad	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	..	..	1	16
6	Poore, Juggernath	1	..	..	..	..	..	..	..	..	..	38	..	4	..	..	3	..	..	..	..	..	..	..	1	..	2	560
5	Chittagong	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	15
6	Dacca	..	..	5	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	2	207
6	Patna	..	..	..	..	..	..	1	..	..	..	3	..	2	..	..	1	2	1	1	..	..	..	..	..	..	5	124
6	Benares.....	..	..	5	..	1	2	..	..	..	..	3	..	..	..	2	2	..	..	..	2	..	1	6	..	..	..	177
6	Allahabad	..	..	6	..	..	2	3	..	..	..	3	..	5	..	..	5	..	..	..	1	..	1	3	..	..	10	167
2	Furruckabad	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
6	Cawnpoor.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Agra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	Muttra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
6	Delhi	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
6	Bareilli	..	..	3	1	1	..	4	..	..	..	4	..	3	2	2	..	..	..	..	2	..	..	2	1	1	26	136
5	Moradabad	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1	..	..	..	53	64
1	Shajehanpoor	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3
4	Jubbulpoor	..	..	1	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	1	90
	Total Died	1	..	20	1	2	5	8	..	1	..	54	..	20	2	4	11	2	1	1	9	..	3	13	2	1	107	1575

TABLE IV.—*Showing the Deaths among the House-Patients Treated.*

Dispensaries.	Of the Digestive Function.					Of the Respiratory Function.	Of the Sanguineous Function.																											
			Cholera.				Febris.				Inflammatio.			Hepatitis.			Opthalmia.			Dysenteria.		Rheumatismus.				Syphilis.								
	Colica.	Diarrhœa.	Bilious.	Spasmodica.	Icterus.	Asthma.	Intermittens.	Remittens.	Continua.	Phlegmon & Abscesses.	Cephalica.	Thoracica.	Enteritica.	Acuta.	Chronica.	Splenitis.	Acuta.	Chronica.	Catarrhus.	Acuta.	Chronica.	Acutus.	Chronicus.	Varicla.	Phthisis Pulmonalis.	Scrofula.	Primativa.	Consecutiva.	Elephantiasis.	Scorbutus.	Gangrena.	Ulcus.		
Bhowanipoor	1	..	..	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Moorshedabad	1	9	..	2	..	..	5	1	1	1	..	2	..	..	1	3	..	..	2	4	40	..	2	..	..	..	1	..	..	..	2	1	..	..
Poore	..	25	..	4	..	1	6	3	..	..	..	..	..	..	..	..	..	..	..	..	79	..	..	..	..	..	..	..	..	..	2	1	..	..
Chittagong	..	2	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	6	..	..	..	..	..	..	..	..	..	1	1	..	..
Dacca	2	2	6	..	..	..	5	1	..	..	..	..	..	..	..	9	..	..	..	7	2	4	1	..	..	..	..	..	..	..	1	1	..	..
Patna	..	..	2	3	..	..	2	..	..	..	..	..	..	3	4	..	..	..	..	..	2	..	1	1	..	..	1	2	..	..	1	1	..	..
Benares	..	5	1	1	..	..	2	2	1	2	..	..	..	..	..	3	..	..	..	2	1	1	1	..	2	..	4	2	..	..	..	..	..	5
Allahabad	..	4	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..
Cawnpoor	..	55	2	..	..	1	8	24	..	3	..	3	..	..	..	1	..	..	5	2	26	..	13	..	4	..	8	6	..	..	3	19	..	..
Agra	3	1	..	4	..	..	..	5	1	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	5	1	..	..
Muttra	..	4	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	1	..	..
Delhi	..	1	..	..	..	..	4	3	3	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	1	..	2	1	..	..	1	..	..	..
Bareilly	..	6	..	1	1	1	3	4	1	..	..	..	..	1	1	..	1	..	..	3	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Moradabad	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jubbulpoor	..	5	..	5	..	..	..	2	..	..	..	1	1	..	..	..	..	..	..	3	11	..	..	1	..	..	..	3	..	..	1	..	..	..
Total Died	7	119	13	22	1	4	36	47	8	6	..	6	1	1	6	20	1	..	7	24	176	5	20	2	7	..	16	14	..	..	18	31	..	..

TABLE IV.—*continued.*

Dispensaries.	Of the Nervous Function.								Of the Excernent Function.									From External Violence.									Total.
									Tumores.		Hydrops.									Vulnus.							
	Mania.	Cataracta.	Tetanus.	Chorea.	Epilepsia.	Apoplexia.	Paralysis.	Gonorrhœa.	Bronchocele.	Tumores.	Anasarca.	Hydrothorax.	Ascites.	Hydrocele.	Dysuria.	Lepra.	Psora and Herpes.	Contusio.	Luxatio & Subluxatio.	Incisum.	Scloppetorum.	Anguinum.	Ambustio.	Fractura.	Concussio Celebri.	Alii Morbi.	
Bhowanipoor	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10
Moorshedabad	..	..	1	..	..	..	..	..	..	..	5	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	91
Poore	..	..	..	..	..	..	..	..	..	..	19	..	2	..	..	..	..	..	..	..	..	..	..	..	..	2	144
Chittagong	..	..	1	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	1	20
Dacca	..	..	..	..	..	..	..	..	..	..	..	..	5	1	..	..	..	..	1	..	..	..	..	1	..	..	49
Patna	..	..	..	..	..	..	1	..	..	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	2	29
Benares	..	..	2	..	..	..	..	..	2	..	7	..	3	..	1	..	..	..	..	8	..	..	8	9	1	5	81
Allahabad	..	..	..	..	..	..	..	..	..	..	3	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1	14
Cawnpoor	2	..	..	..	..	..	6	..	..	5	3	..	9	..	2	4	..	2	..	2	..	..	..	2	..	26	246
Agra	..	..	..	..	..	1	..	..	..	..	..	..	2	..	..	..	..	..	..	..	1	..	..	1	..	2	29
Muttra	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	5	16
Delhi	..	..	..	..	..	2	..	1	1	1	..	..	2	..	..	..	..	..	..	3	..	..	..	1	..	6	36
Bareilly	..	..	..	..	..	1	1	..	..	..	1	1	1	..	1	..	..	..	..	1	..	..	..	3	1	2	37
Moradabad	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jubbulpoor	..	..	..	..	..	..	..	..	..	..	1	..	2	.	..	..	..	..	..	4	1	..	..	..	1	3	45
Total Died....	2	..	4	..	..	5	8	2	3	7	42	1	32	1	4	4	..	2	1	19	2	..	8	17	5	55	847

The great amount of deaths at Pooree is accounted for by its being the Pilgrim Hospital at the Temple of Juggernath; and the poor pilgrims were taken up from the road side and carried in a dying state into the hospital.

TABLE V.—*Showing the Admissions and Deaths among the House-Patients treated in the Bengal Dispensaries and those of the North-West Provinces.*

Number of Half-yearly Reports.	Dispensaries.	Urinary Calculus.	Of the Digestive Function.						Of the Respiratory Function.	Of the Sanguineous Function.																										
			Colica.	Diarrhœa.	Cholera.		Icterus.	Asthma.		Febris.			Phlegmon and Abscesses.	Inflammatio.			Hepatitis.		Splenitis.	Opthalmia.		Catarrhus.	Dysenteria.		Rheumatismus.		Variola.	Phthisis Pulmonalis.	Scrofula.	Syphilis		Elephantiasis.	Scorbutus.	Gangrena.	Ulcus.
					Biliosa.	Spasmodica.				Intermittens.	Remittens.	Continua.		Cephalica.	Thoracica.	Enteritica.	Acuta.	Chronica.		Acuta.	Chronica.		Acuta.	Chronica.	Acutus.	Chronicus.				Primative.	Consecutive.				
4	Bhowanipoor.....	..	1	1	..	..	..	3	..	..	..	..	2	..	..	1	..	..	1	..	..	..	8	5	2	..	..	..	2	3	..	..	..	..	4
4	Moorshedabad	..	2	13	..	3	..	..	29	3	3	2	2	..	3	3	..	2	11	..	..	..	4	57	1	32	..	..	..	17	4	..	..	3	4
5	Pooree, Juggernath	..	12	61	..	13	..	1	113	6	..	64	1	4	7	..	3	6	10	7	16	34	155	19	78	..	..	1	55	48	9	..	3	96
5	Chittagong.....	..	1	6	..	1	..	..	3	1	3	3	..	2	..	..	1	3	..	1	..	8	9	9	4	..	1	1	4	6	..	..	6	27
6	Dacca	..	3	4	10	..	1	2	24	1	..	1	..	..	..	..	1	..	49	2	2	..	13	2	42	3	..	..	..	11	3	2	..	2	26
8	Patna	..	1	7	4	5	..	3	2	4	..	6	..	..	..	..	..	5	5	6	5	..	6	7	12	12	2	..	..	7	33	..	..	7	33
6	Benares	..	1	28	1	6	..	1	8	23	4	16	1	1	2	1	..	17	..	2	..	13	1	32	19	..	3	..	236	123	..	..	1	72
1	Allahabad	..	1	11	..	..	..	..	3	3	4	4	..	..	..	..	..	..	..	1	..	..	..	7	3	..	1	1	4	6	..	..	14	4
	Furruckabad*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Cawnpoor	8	8	93	9	1	..	2	28	117	2	28	..	5	2	..	1	..	2	2	15	14	7	59	6	137	..	6	5	165	78	..	..	10	116
6	Agra	..	7	3	..	5	..	..	..	6	3	3	..	1	..	1	1	1	1	..	..	..	..	2	..	6	..	..	..	..	1	..	..	9	5
2	Muttra	..	1	10	4	..	..	..	7	1	5	1	..	..	..	..	..	3	..	2	2	1	3	..	9	..	..	..	8	4	1	..	1	19
6	Delhi.....	..	1	8	..	..	..	1	48	6	57	..	..	..	4	..	1	1	..	1	..	..	6	1	21	..	2	..	8	6	1	..	2	24
6	Bareilly	..	..	13	..	1	1	3	30	23	8	3	..	2	..	2	1	6	6	..	1	7	2	16	8	..	..	3	23	2	..	..	3	20
	Moradabad*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Shahjehanpoor* ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	Jubbulpoor.....	..	2	17	..	3	..	..	17	22	..	3	..	2	1	1	1	14	..	5	..	11	25	4	8	1	..	6	30	26	..	..	2	12
	Total.....	..	41	275	28	43	2	16	312	216	91	137	2	20	20	7	15	119	28	40	33	112	340	147	327	3	13	26	618	334	13	..	64	462
	Died	8	7	119	13	22	1	4	36	47	8	9	..	6	1	1	6	20	1	..	7	24	176	5	20	2	7	..	16	14	..	..	18	31

* No Return.

TABLE V.—*continued.*

Number of Half-yrly. Reports	Dispensaries.	Of the Nervous Function.								Of the Excernent Function.									From External Violence.													
										Tumores		Hydrops.									Vulnus.											
		Mania.	Cataracta.	Tetanus.	Chorea.	Epilepsia.	Apoplexia.	Paralysus.	Gonorrhœa.	Bronchocele.	Tumores.	Anasarca.	Hydrothorax.	Ascites.	Hydrocele.	Dysuria.	Lepra.	Psora and Herpes.	Contusio.	Luxatio and Subluxatio.	Incisum.	Sclopetorum.	Anguinum.	Ambustio.	Fractura.	Concussio Cerebri.	Alii Morbi.	Total.	Died.	Cured.	Relieved, or Absconded.	
4	Bhowanipoor	..	8	..	..	..	4	1	..	..	2	2	..	2	..	..	..	2	..	1	2	..	..	..	2	..	6	66	10	48	8	
4	Moorshedabad	..	..	1	..	..	..	..	..	..	1	13	..	2	..	1	..	..	2	2	2	..	..	..	4	2	3	220	84	91	45	
5	Pooree, Juggernath	21	2	..	..	5	..	1	38	..	3	40	5	3	1	..	10	67	2	4	16	..	..	1	3	..	251	1295	146	440	709	
5	Chittagong.....	1	6	1	..	2	..	6	9	2	3	1	..	7	..	..	..	..	1	..	36	..	..	..	12	..	16	203	20	121	62	
6	Dacca	1	..	..	..	..	..	2	1	..	3	3	..	12	1	..	..	..	..	6	11	..	..	..	6	..	37	288	49	168	71	
8	Patna	..	99	..	..	..	..	8	..	..	4	6	..	5	..	..	3	3	1	..	1	..	..	..	2	..	32	381	29	291	61	
6	Benares	2	2	4	..	2	1	..	1	5	1	12	2	6	..	3	3	..	..	2	110	..	1	21	60	3	16	870	81	688	101	
1	Allahabad	..	1	..	..	..	..	..	1	..	..	5	..	5	..	2	1	..	2	1	..	..	..	..	2	..	6	93	14	43	36	
	Furruckabad*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
6	Cawnpoor	13	9	..	..	1	..	14	3	..	14	9	..	37	3	14	8	18	25	4	17	..	..	..	24	2	103	1243	246	820	177	
6	Agra	2	..	..	..	..	1	1	..	..	1	3	..	7	..	..	..	..	..	1	18	2	..	..	8	2	11	112	29	54	29	
2	Muttra.....	..	3	..	..	..	..	1	..	..	2	..	..	9	..	..	..	3	..	..	3	..	..	1	3	3	36	149	16	85	48	
6	Delhi	..	8	..	..	3	2	..	4	1	2	5	..	9	1	..	..	..	3	1	27	..	..	..	18	..	53	336	36	263	37	
6	Bareilly	..	2	..	..	..	1	6	5	1	2	6	4	7	1	13	..	1	4	3	22	..	..	..	17	5	18	302	37	177	88	
	Moradabad*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Shahjehanpoor* ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
3	Jubbulpoor.....	..	8	..	..	..	..	8	..	..	3	4	..	6	..	6	8	1	2	1	53	3	..	2	7	1	20	338	45	215	78	
	Total	40	148	6	..	13	9	48	62	9	41	109	11	117	6	93	28	95	40	27	316	5	1	25	168	18	608	5896	842	3504	1556	
	Died	2	..	4	..	..	5	8	2	3	7	42	1	32	1	4	4	.	2	1	19	2	..	3	17	5	55	..	842	..	..	

* No Return.

N.B. With respect to the mortality, as the cases were those brought in only at the last extremity, no satisfactory conclusion can be drawn on the subject of the treatment, whether successful or otherwise. As the figures stand, the deaths were about 14·3 per cent. of the patients. The deaths at Pooree are accounted for by its being the Juggernath Pilgrims' Hospital; and the numerous patients were picked up upon the roads in a dying state.

TABLE VI.—*Showing the average number of Days each Disease was under Treatment.*

Dispensaries.	Of the Digestive Function.					Of the Respiratory Function.	Of the Sanguineous Function.																									
	Colica.	Diarrhœa.	Cholera		Icterus.	Asthma.	Febris.			Phlegmon and Abscesses.	Inflammatio.			Hepatitis.		Splenitis.	Opthalmia.		Catarrhus.	Dysenteria.		Rheumatismus.		Variola.	Phthisis Pulmonalis.	Scrofula.	Syphilis.		Elephantiasis.	Scorbutus.	Gangrena.	Ulcus.
			Bilious.	Spasmodica.			Intermittens.	Remittens.	Continua.		Cephalica.	Thoracica.	Enteritica.	Acuta.	Chronica.		Acuta.	Chronica.		Acuta.	Chronica.	Acutus.	Chronicus.				Primativa.	Consecutiva.				
Moorshedabad...Days	14	14	2	2	...	...	$\frac{1}{12}$	6	...	6	...	...	$\frac{3}{6}$	...	...	14	7	$\frac{2}{7}$	...	..	$\frac{14}{28}$	...	$\frac{14}{28}$	...	...	...	$\frac{14}{17}$	14	...	...	42	7
Dacca ..... „	$\frac{2}{4}$	$\frac{17}{18}$	$\frac{4}{8}$	$\frac{5}{6}$	...	16	$\frac{10}{30}$	$\frac{6}{11}$	6	$\frac{4}{8}$	$\frac{2}{4}$	4	6	$\frac{7}{8}$	$\frac{6}{14}$	$\frac{14}{34}$	$\frac{9}{17}$	16	6	$\frac{16}{17}$	50	18	28	...	...	..	$\frac{14}{18}$	51	...	...	...	$\frac{2}{28}$
Benares ..... „	...	$\frac{8}{11}$	...	1	...	...	$\frac{10}{48}$	$\frac{9}{41}$	$\frac{5}{8}$	69	...	$\frac{16}{50}$	23	...	...	$\frac{14}{18}$	...	10	...	$\frac{6}{35}$	...	$\frac{19}{122}$	$\frac{18}{36}$	...	...	...	$\frac{30}{183}$	$\frac{25}{28}$	...	...	...	$\frac{10}{148}$
Bareilly ..... „	3	$\frac{4}{33}$	7	...	5	...	$\frac{5}{16}$	$\frac{13}{45}$	5	..	..	...	...	...	...	8	...	...	...	$\frac{14}{28}$	9	23	$\frac{9}{28}$	...	...	...	5	...	...	...	67	$\frac{10}{28}$
Moradabad ..... „	5	$\frac{4}{10}$	$\frac{1}{3}$	...	...	75	$\frac{7}{11}$	$\frac{7}{8}$	21	$\frac{11}{12}$	16	$\frac{13}{15}$	$\frac{7}{8}$	11	$\frac{6}{28}$	$\frac{10}{30}$	$\frac{2}{27}$	$\frac{12}{15}$	...	$\frac{18}{28}$	$\frac{7}{15}$	10	$\frac{9}{12}$	...	...	$\frac{60}{101}$	$\frac{11}{28}$	$\frac{14}{27}$	...	...	$\frac{2}{30}$	$\frac{10}{24}$

TABLE VI.—*continued.*

Dispensaries.	Of the Nervous Function.								Of the Excernent Function.									From External Violence.									
									Tumores.		Hydrops.									Vulnus.							
	Mania.	Cataracta.	Tetanus.	Chorea.	Epilepsia.	Apoplexia.	Paralysis.	Gonorrhœa.	Bronchocele.	Tumores.	Anasarca.	Hydrothorax.	Ascites.	Hydrocele.	Dysuria.	Lepra.	Psora and Herpes.	Contusio.	Luxatio and Subluxatio.	Incisum.	Sclopetorum.	Anguinum.	Ambustio.	Fractura.	Concussis Cerebri.	Alii Morbi.
Moorshedabad...Days	14	...	...	...	...	...	...	$\frac{10}{14}$	...	7	$\frac{9}{12}$	...	...	...	...	120	7	...	$\frac{7}{32}$	$\frac{7}{12}$	...	..	7	21	...	...
Dacca ..... „	$\frac{4}{30}$	...	...	...	...	...	$\frac{17}{21}$	$\frac{11}{14}$	...	$\frac{6}{11}$	...	...	...	16	$\frac{5}{12}$	19	4	$\frac{2}{7}$	10	$\frac{6}{18}$	1	...	17	$\frac{24}{71}$	...	...
Benares ..... „	...	...	...	...	39	...	...	5	51	...	$16\frac{1}{2}$	...	...	...	6	...	...	...	...	$\frac{22}{178}$	...	13	22	$\frac{36}{257}$	...	...
Bareilly ..... „	...	...	...	...	...	...	...	$\frac{10}{41}$	6	...	...	...	11	...	$\frac{12}{25}$	...	...	...	8	...	...	...	$\frac{7}{31}$	11	10	...
Moradabad ..... „	$\frac{8}{112}$	$\frac{13}{16}$	...	...	...	...	...	$\frac{14}{18}$	...	$\frac{16}{33}$	...	...	20	12	$\frac{4}{8}$	$\frac{100}{108}$	$\frac{10}{37}$	...	$\frac{6}{6}$	$\frac{12}{24}$	...	...	$\frac{14}{21}$	$\frac{20}{31}$	...	...

NOTE.—The explanation of the $\frac{4}{28}$, $\frac{8}{112}$, $\frac{11}{14}$, &c. &c. is, that the average time each disease was under treatment varied at different periods, for $\frac{4}{28}$ 4 days to 36 days, from $\frac{8}{112}$ 8 days to 112 days, and $\frac{11}{14}$ from 11 days to 14 days.

APPENDIX.

THE Cholera and Vaccination Returns, together with those of the surgical operations from the several Dispensaries, being of too extended and detailed a nature for insertion in the Journal of the Statistical Society, I merely annex a specimen of the several returns to show their form and character. The detailed reports from many of the native sub-assistant surgeons of their treatment of local diseases, and of their surgical operations, particularly in cataract and lithotomy, are not less interesting than instructive.

The only census furnished of the population of a town or city where a Dispensary is located, is that of Allahabad, annexed.

The following abstract will show the nature of the operations performed at Cawnpoor, from 1st August to 31st January, 1845:—

Names.	Age.	Sex.	Diseases.	Operations.	Remarks.
Begay.....	27	Female..	Cartilaginous tumour on the buttock.	Removed	Successful.
Lalloo	45	Male	Urinary calculus	Lateral operation lithotomy.	Ditto.
Inderjit	14	Ditto	Gangrene of the arm.	Amputation at the shoulder.	Ditto.
Lallawa	39	Ditto	Urinary calculus	Lateral operation lithotomy.	Ditto.
Gadha	8	Ditto	Ditto.....	Ditto	Ditto.
Horeojuon	45	Ditto	Ascites	Tapped	Relieved.
Motty	44	Ditto	Steatomatous tumour on scalp	Removed.....	Successful.
Voora.....	5	Ditto	Urinary calculus	Lateral operation lithotomy.	Ditto.
Alwar.....	10	Ditto	Ditto.....	Ditto	Ditto.
Pirbux	64	Ditto	Ditto.....	Ditto	Died.
Permo	33	Ditto	Elephantiasis of the penis.	Operated on; body of penis saved.	Successful.
Amirbux	20	Ditto	Sloughing cancer	Amputation of the penis.	Ditto.
Nundkissore.	15	Ditto	Urinary calculus	Lateral operation lithotomy.	Ditto.
Howagun	44	Ditto	Fungus hœmatodes of eye.	Extirpation of the eye.	Ditto.
Rambux.....	30	Ditto	Tumour on the scalp.	Removed.....	Ditto.
Kissory	14	Female..	Sloughing of the hand.	Amputation above the wrist.	Ditto.
Kisna.....	2	Male	Urinary calculus	Lateral operation lithotomy.	Ditto.

Statement of Cholera Patients treated in the different Thanahs of the City of Patna, by the Dispensary Apprentices, during the Months of April and May, 1841.

Disease.	Admitted.	Cured.	Died.	Remark.
Cholera	2,016	1,810	206	10 per cent. died.
Total	2,016	1,810	206	

(Signed) RAM ESHUR AWASTHEE,
In charge Government Dispensary.

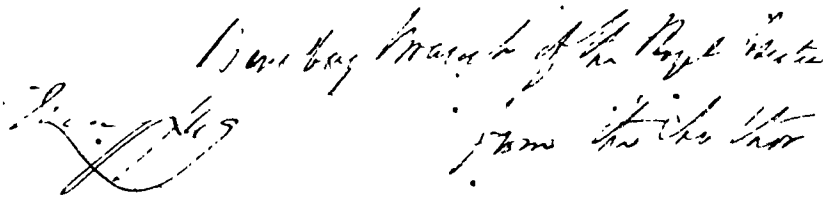
PATNA,
18*th November*, 1841.

Half-Yearly Vaccine Return of the Cawnpore Government Dispensary, from 1st August, 1844, to 31st of January, 1845.

Stations.	Corps and Medical Officer.	Successful.	Unsuccessful.	Doubtful.	Total.	Subjected to Bryce's Tests.	Grand Total.	
Cawnpore.	Mr. Assistant Surgeon E. Goodeve, Superintendent. Native Vaccinator							
	Durrewah	5	3	....	8	....	8	Aug.
	Ditto	6	4	....	10	....	10	Sep.
	Ditto	5	4	....	9	....	9	Oct.
	Ditto	8	5	1	14	....	14	Nov.
	Ditto	7	3	2	12	....	12	Dec.
	Ditto	5	4	1	10	....	10	Jan., 1845.
	Total	36	23	4	63	....	63	

Census of the City of Allahabad, January 1st, 1841.

Name of Thannah.	Number of Houses.	Number of Inhabitants.		Total Number of Inhabitants.
		Hindoos.	Mussulmans.	
Kutwallee	2,245	5,852	2,716	8,568
Badshahumundnee	2,302	7,214	3,559	10,773
Daragunge	1,485	5,949	1,149	7,098
Kitgunge	3,145	9,471	2,573	12,044
Dureeabad	1,769	5,756	2,674	8,430
Khooldabad	1,291	2,779	3,594	6,373
Kuttra	2,378	6,994	4,766	11,760
Total	14,615	44,015	21,031	65,046



STATISTICS

OF

CIVIL AND CRIMINAL JUSTICE

IN INDIA.

Statistics of the Administration of Civil and Criminal Justice in British India from 1841 *to* 1844, *both inclusive.* By Lieut.-Colonel W. H. Sykes, F.R.S.

[Read before the Statistical Section of the British Association for the advancement of Science at Southampton, 12th September, 1846.]

As the following returns of the Administration of Civil and Criminal Justice in India are in continuation of those formerly submitted to the Statistical Society of London, and published in its Journal, any further notices of the constitution and power of the different courts would be superfluous. My object in continuing the review of the returns was to ascertain whether the native aid called in to assist in the administration of civil and crimimal justice were as efficient and satisfactory as in the former review; and I am glad to be enabled to state, that as far as the returns afford evidence, not only does the system work as well as before, but as great, or even a greater, amount of business is got through in less time, without any sacrifice of substantial justice as indicated by the extent of the appeals.

CIVIL JUSTICE: BENGAL GOVERNMENT.

The whole of the courts in Bengal got through their current annual business and diminished their arrears; so that in 1844, in all the courts, the number of cases depending in the several courts were considerably less than in 1841. The Bengal returns do not correspond with those from the other Governments, nor are they in the exact order or form of the former returns. A compendious view of the disposition of the whole of the Civil cases corresponding to No. I. of the Bombay returns is entirely wanting; nor from the present returns are the means afforded in appellate jurisdiction, of comparing the appeals from the decisions of the Native judges with those of the European judges. A return showing the civil debtors in jail at the instance of Government and individuals is also wanting, similar to No. XI. of the Bombay returns, but the Bengal returns have the advantage of those from Bombay in a return of the duration of suits in each court. This return is highly satisfactory, as it shows a more speedy administration of justice in all the courts. In the highest court of appeal the average duration of a suit was one year, seven months, and eight days in 1841, and in 1844 it was only one year and one month. In the European courts the time was reduced from ten months and eleven days in 1841, to seven months and seven days in 1844. In the Principal Sudder Ameens Court from seven months and ten days to five months and twenty-two days. In the Sudder Ameens Courts from eleven months and fourteen days to five months and five days; and in the Moonsiffs Courts from five months and nineteen days to four months and fourteen days.

The total number of appealable cases in the Principal Sudder Ameens Courts in the four years under review was 31,368, and the number absolutely appealed was 6,080, or 19·4 per cent. The reversals are not distinguished from the modifications, but the two together amounted to 2,381, or 7·6 per cent. of the total appealable cases, but more than 30 per cent. of the cases appealed. It is a defect that the reversals are not shown separately. In the Sudder Ameens Courts the total number of cases appealable in four years was 11,818, and

of this number 5,320 were appealed, or 45 per cent. The number modified and reversed was 1,732, or 14·6 per cent. of the appealable cases, but more than 32 per cent. of the cases appealed. In the Moonsiffs Courts the total number of appealable cases in the four years was 243,267 cases, of which 40,404 were appealed, or 16·6 per cent., 13,013 of these cases were reversed or modified, being 5·8 per cent. of the appealable cases, but 32 per cent. of the cases appealed. The amount of appeals and reversals far exceed those in the native courts in Bombay.

The amount of property in litigation in the first two years was nearly eight millions sterling. In 1843 it fell to about 5,680,000*l.*, and in 1844 to three millions sterling.

The very small number of suits connected with caste and religion speaks favourably for the harmony with which the different tribes and sects live in juxtaposition.

I.—*Original Suits on the Files of the Moonsiffs Courts.*

	1841.	1842.	1843.	1844.
Depending 1 Jan.	41,601	41,536	37,598	35,371
Admitted	99,954	99,144	98,976	103,768
Disposed of	100,019	103,082	101,203	103,690
Depending, 31 Dec.	41,536	37,598	35,371	35,449

II.—*Sudder Ameens.*

	1841.	1842.	1843.	1844.
Depending, 1 Jan.	2,375	3,400	3,066	1,681
Admitted	5,578	5,152	3,736	2,966
Disposed of	4,583	5,486	5,121	2,997
Depending. 31 Dec.	3,400	3,066	1,681	1,650

III.—*Principal Sudder Ameens.*

	1841.	1842.	1843.	1844.
Depending, 1 Jan.	5,580	5,658	5,205	4,783
Admitted	10,836	10,221	10,438	9,671
Disposed of	10,758	10,672	10,860	9,917
Depending, 31 Dec.	5,658	5,205	4,783	4,537

IV.—*Zillah and City Judges.*

	1841.	1842.	1843.	1844.
Depending, 1 Jan.	4,170	3,860	2,681	2,470
Admitted	26,101	24,541	22,298	16,433
Disposed of	26,411	25,720	22,509	16,039
Depending, 31 Dec.	3,860	2,681	2,470	2,864

V.—*Sudder Dewanny Adawlut.*

	1841.	1842.	1843.	1844.
Depending, 1 Jan., 1841	665	557	425	449
Admitted	328	317	293	315
Disposed of	436	449	269	344
Depending, 31 Dec.	557	425	449	420

VI.—*Appellate Jurisdiction over the several classes of Native Judges.*

	Principal Sudder Ameens				Sudder Ameens.				Moonsiffs.			
	1841.	1842.	1843.	1844.	1841.	1842.	1843.	1844.	1841.	1842.	1843.	1844.
Appealable....	7,743	8,170	7,933	7,522	3,168	3,710	2,838	2,102	61,968	60,578	59,730	60,991
Appealed	1,469	2,603	1,128	880	1,137	2,260	1,147	776	9,341	13,614	8,666	8,783
Affirmed.....	727	733	539	412	480	656	646	494	4,812	4,497	4,480	4,390
Modified or Reversed..	802	656	594	329	367	537	501	327	3,393	3,419	3,146	3,055

VII.—*Average duration of a Suit before the several Tribunals, according to the average number of Decisions during the last Five years.*

	1841.			1842.			1843.			1844.		
	Yrs.	Mths	Days.	Yrs.	Mths	Days.	Yrs.	Mths	Days.	Yrs.	Mths	Days.
Sudder Dewanny Adawlut	1	7	8	1	2	25	1	3	5	1	1	....
Zillah and City Judges.....	....	10	11	....	7	9	....	6	11	....	7	7
Principal Sudder Ameens	....	7	10	....	6	16	....	5	28	....	5	22
Sudder Ameens	....	11	14	....	9	14	....	5	11	....	5	5
Moonsiffs.....	....	5	19	....	4	28	....	4	16	....	4	14

VIII.—*Total Value of the Regular Suits Depending at the end of the Year.*

	1841.	1842.	1843.	1844.
	Rupees.	Rupees.	Rupees.	Rupees.
Before the Sudder Adawlut	9,086,782	9,968,405	10,195,630	8,711,955
Other Courts (original)...	67,341,991	66,490,490	44,916,590	24,408,443
Ditto (appeals).....	2,023,015	1,728,290	1,754,516	1,941,143
Total	78,451,788	78,187,185	56,866,736	30,061,541

IX.—*Description of Original Suits.*

	1841.	1842.	1843.	1844.
Connected with Land Rent	16,218	17,365	17,375	26,025
Otherwise connected with Land	12,125	12,892	6,281	....
Connected with Debts, Wages, &c.	67,143	64,437	70.056	64,500
Connected with Caste, Religion, &c.	443	451	·664	738
Connected with Indigo, Sugar, Silk, &c.	4,032	3,470	4,740	3,935
Total	99,961	98,615	99,116	95,198

CIVIL JUSTICE: AGRA GOVERNMENT.

The Returns from the Agra Government like those from Bengal are wanting in a compendious view of the whole amount of Civil Cases disposed of, also in the means of comparing the relative amount of appeals from the decisions of European and Native judges, and in a return of civil debtors. From the returns available, however, business is evidently progressing satisfactorily. In the courts of the European judges, the principal Sudder Ameens, and those of the Moonsiffs, the current business of the year appears to have been got through and arrear diminished. In the highest Appellate Court a slight increase of arrears took place in the years 1843 and 1844, and in the courts of the Sudder Ameens less activity is manifested than in any of the others; the current business of the year not being got through. Considerable improvement, however, had taken place in shortening the duration of suits in all the courts; from seven months and thirteen and a half days, in the Sudder or highest Court of Appeal in 1842, to six months and eighteen and a half days in 1844; and very remarkably so in the courts of the European judges, from seven months and three days in 1842, to four months and sixteen days in 1844. Cases occupied about the same time in the principal Sudder Ameens Courts during the years under review, but the suits were comparatively of short duration. The Sudder Ameens, as might be expected from not getting through the current business of the year, do not figure favourably in comparison with the other judges, the average duration of their suits having increased from four months and five days to four months and sixteen days. The Moonsiffs reduced the duration of a suit from three months and one day in 1842, to two months and twenty-one days in 1844. It may be remarked, very much to the credit of all the courts, European and Native, that the duration of a suit with them is considerably less than in the courts of Bengal, in the highest court of appeal, the Sudder, to half the time even.

The appeal cases from the several courts are only shown for the Native courts for 1843 and 1844. The principal Sudder Ameens had 9,859 cases appealable, and of this number 1,724 were appealed, or 17½ per cent. Of these were modified or reversed, 832 or 8·4 per cent. of the total cases *tried*, but amounting to 48 per cent. of the cases

appealed. The Sudder Ameens had 6,168 appealable cases, and 1,772 were appealed or 28·7 per cent., 603 were modified or reversed, being 9·7 per cent. of the whole number of cases, and 34 per cent. of the appealed cases. The Moonsiffs had 71,826 appealable cases; of these 11,035 were appealed, or 15·3 per cent., 3,919 were modified or reversed, being 5·4 per cent. of the whole number of cases, and 35 per cent. of those appealed. The Moonsiffs, therefore, have the advantage over the other native judges in their decisions being less questioned. The value of the property in dispute in the respective years was 1,637,941*l.*, and 1,057,260*l.*, and 1,442,861*l.*

I.—*Original Suits on the Files of the Moonsiffs Courts.*

	1841.	1842.	1843.	1844.
Depending 1st January, 1843	....	14,560	13,581	12,441
Admitted	....	56,703	56,323	58,484
Transferred	....	3,953	4,729	2,021
Disposed of	....	53,729	52,883	56,189
Depending 1st January, 1843	....	13,581	12,441	12,638

II.—*Sudder Ameens.*

	1841.	1842.	1843.	1844.
Depending 1st January, 1842.—Original	....	773	1,062	894
Admitted	...	3,152	4,545	2,641
Transferred	....	77	385	131
Disposed of	....	2,856	4,109	2,470
Depending 1st January, 1843	....	992	1,113	934

III.—*Principal Sudder Ameens.*

		1841.	1842.	1843.	1844.
Depending 1st January, 1842	Original	....	1,711	1,390	1,164
	Appeal	....	671	375	512
Admitted	Original	....	3,778	2,767	2,807
	Appeal	....	2,705	3,265	3,237
Transferred to other Courts	Original	....	518	208	110
	Appeal	....	94	45	237
Disposed of	Original	....	3,581	2,785	2,878
	Appeal	....	2,705	3,083	2,902
Depending 1st January, 1843	Original	....	1,390	1,164	975
	Appeal	....	375	512	610

IV.—*Judges.*

		1841.	1842.	1843.	1844.
Depending 1st January, 1842	Original	....	12	17	11
	Appeal	....	3,263	3,007	2,287
Admitted	Original	....	8,503	6,964	3,104
	Appeal	....	7,560	7,168	6,669
Transferred to other Courts....	Original	....	8,463	6,939	4,072
	Appeal	....	2,743	3,383	3,061
Disposed of	Original	....	35	31	17
	Appeal	....	5,073	4,505	4,397
Depending 1st January, 1843	Original	....	17	11	4
	Appeal	....	3,007	2,287	1,664

V.—*Sudder Dewanny Adawlut.*

	1841.	1842.	1843.	1844.
Depending 1st January, 1842	....	139	113	120
Admitted	....	156	180	254
Decided	....	120	111	118
Otherwise disposed of	....	62	62	123
Depending 31st December	....	113	120	133

VI.—*Description of Original Suits.*

	1841.	1842.	1843.	1844.
Connected with Land Rent	....	13,802	10.334	15,383
Otherwise connected with Land	....	....	....	....
Connected with Debts' Wages	....	43,739	46,779	44,779
Connected with Caste, Religion	....	78	65	55
Connected with Indigo, Sugar, Silk, &c.	....	633	751	714

VII.—*Average Duration of a Suit before the several Tribunals.*

	1841.			1842.			1843.			1844.		
	Yrs.	Mths	Days.	Yrs.	Mths	Days.	Yrs.	Mths	Days.	Yrs.	Mths	Days.
Sudder Dewanny Adawlut.....	....	....	....	....	7	13½	....	8	9½	....	6	18½
Zillah Judges	....	....	....	....	7	3	....	5	21	....	4	16
Principal Sudder Ameens.....	....	....	....	....	3	11	....	3	12¾	....	3	7
Ameens.....	....	..	....	....	4	5	....	3	9¾	....	4	16
Moonsiffs	....		..	...	3	1	....	2	23	....	2	21

VIII.—*Total Value of the Regular Suits Depending at the end of the Year.*

	1841.	1842.	1843.	1844.
		Rupees.	Rupees.	Rupees.
Before the Sudder Adawlut Appeals	....	1,413,918	1,535,742	2,071,369
Other Courts.—Original	....	13,986,716	6,610,978	9,561,369
,, Appeals	....	978,779	2,425,880	2,795,875
Total	....	16,379,413	10,572,600	14,428,613

IX.—*Appellate Jurisdiction over the several classes of Native Judges.*

	Principal Sudder Ameens.				Sudder Ameens.				Moonsiffs.			
	1841.	1842.	1843.	1844	1841.	1842.	1843.	1844.	1841.	1842.	1843.	1834.
Appealables ..	..	..	4,941	4,918	..	..	2,991	3,177	..	..	35,078	36,748
Appealed	..	..	974	750	..	..	937	865	..	..	5,415	5,620
Affirmed.....	..	..	555	523	..	..	576	562	..	..	3,264	3,530
Modified or Reversed ..	..	..	475	357	..	..	287	316	..	..	2,075	1,844
Depending												

CIVIL JUSTICE: MADRAS GOVERNMENT.

The European Provincial Courts having been abolished in 1842, I do not see any practical advantage in inserting the returns from those courts for 1841 and 1842. The returns from the Madras Government are more elaborate than those from the other Governments; but they differ much in form and character, and do not admit of ready comparisons with them; they are wanting also in a compendious review of the whole current business of each year; want also a return of the duration of suits, and the value of property litigated, and returns of the original suits before the Principal Sudder Ameens. On the other hand, there are returns of appeals from court to court, instead of the compendious Table V of the Bengal returns.

The following is the jurisdiction of the courts as now constituted under the Madras Government. The Village Moonsiffs exercise jurisdiction to the amount of 10 rupees (1*l.*,) without institution fee or appeal. The District Moonsiffs to the extent of 1,000 rs. (100*l.*), with fees and appeal. The Sudder Ameens in reference to the extent of 2,500 rs. (250*l.*). The European Registers to the extent of 3,000 rs. (300*l.*) The Principal Sudder Ameens (natives), and Assistants, and Auxiliary Judges (Europeans), to the extent of 5000 rs. (500*l.*). The Zillah Courts have power to a greater extent. Appeals exist from all these Courts to the Supreme or Sudder Court. From the character of the returns above noticed I cannot enter into details or contrasts and whether the several courts have or have not got through their annual original and appeal business I cannot tell, for the numbers depending at the commencement of each year are nowhere given. If Table V be intended to show the amount of business done respectively by the European Judges and by the Native Judges for the years 1841 and 1842, then all the tribunals determined 133,280 suits; the European tribunals 3830, and the Native 129,450; the former performing 2·87 per cent. of the business, and the latter 97·13 per cent.

I.—*Original Suits on the Files of the Village Moonsiffs Courts.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Instituted	1,634	2,178	1,865	2,258	1,786	....	2,530	....
Decided. On the merits	754	963	659	795	750	....	795	....
Decided. On admission of Defendants	394	95	113	214	209	....	198	....
Decided. By default	....	545	970	711	463	....	556	....
Decided. Razanamah	406	646	637	598	524	....	706	....
Total	1,554	2,249	2,379	2,318	1,946	....	2,245	....
Depending	1,927	1,802	1,379	1,309	1,193	....	1,683	....

II.—*Original Suits before the District Moonsiffs.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Instituted	25,339	27,254	23,486	30,576	27,346	....	28,100	....
Referred	846	324	162	144	124	....	47	....
Total	26,185	27,578	23,648	10,126	....	....	....	....
On the merits	11,304	10,083	9,409	1,682	9,962	....	9,980	....
Admission of Defendants	7,797	1,853	1,316	7,208	1,356	....	1,324	....
By default	....	8,165	7,065	8,859	7,533	....	7,503	....
Razanamah	7,174	7,974	6,687	1	7,963	....	8,064	....
Total	26,280	28,075	24,477	27,875	26,814	....	26,371	....
Depending	21,606	20,536	19,007	21,431	21,796	....	24,315	....

III.—*Original Suits before the several Zillah Courts.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Instituted	4,731	4,869	3,744	5,256	3,387	....	4,193	....
By Judges, Assistant Judges, and principal Sudder Ameens	608	727	556	788	587	....	387	....
Registrars	143	296	183	212	91	....	....	....
Sudder Ameens	3,027	3,943	3,084	4,146	2,827	....	2,798	....
Total	3,778	4,966	3,821	5,146	3,505	....	3,685	....

IV.—*Suits and Appeals Decided in the several Zillah Courts.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Decided	....	6,446	4,975	6,890	4,662	....	3,983	....
Depending	7,709	7,237	7,157	7,047	6,903	....	7,279	....
Total	7,709	13,683	12,132	13,937	11,565		11,262	

V.—*Operations of the European Tribunals in Original Suits.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
By the Provincial Courts, Judges, Assistant Judges, and Registrars	811	7,041	825	1,153	....	....	....	....
By the other Tribunals	30,870	34,273	29,950	34,357	....	....	....	....
Total	31,681	35,314	30,775	35,510	....	....	....	....

VI.—*Appeals from District Moonsiffs to Sudder Ameens.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Referred	483	417	510	534	....	....	....	....
Reversed	151	178	118	204	....	....	....	....
Confirmed	243	271	152	328	....	....	....	....
By default	12	24	14	53	....	..	....	....
Razanamah	5	18	10	13	....	....	....	....
Total	411	491	294	598	....	....	....	....

VII.—*Appeals from District Moonsiffs to Registrars.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Referred	47	124	93	67	....	....	....	....
Reversed	23	38	29	30	....	....	....	....
Affirmed	33	43	61	43	....	....	....	....
By Default	2	3	1	3	....	....	....	....
Razanamah	....	8	3	3	....	....	....	....
Total	....	92	84	79	....	....	....	....

VIII.—*Appeals from District Moonsiffs to Zillah Judges.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	....
Appealed	725	734	649	776	585	....	518	2
Reversed.....	72	90	46	58	77	....	37	....
Confirmed	88	123	77	106	70	....	56	....
By Default.....	32	26	30	52	56	....	10	....
Razanamah.....	14	10	8	13	12	....	2	....
Total	206	249	161	229	215	....	105	....

IX.—*Appeals from the Sudder Ameens to the Registrars.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Referred	149	257	258	161	....	....	....	....
Reversed.....	20	49	55	55	....	....	....	....
Affirmed	49	77	73	103	....	....	....	....
By Default	3	10	13	5	....	....	....	....
Razanamah.....	4	4	9	6	....	....	....	....
Total	76	140	150	169	....	....	....	....

X.—*Appeals from Sudder Ameens to Zillah Judges.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Appealed.....	552	600	591	662	531	....	358	....
Reversed.....	86	145	114	172	127	....	149	....
Confirmed	137	165	134	179	141	....	201	....
By Default	27	37	17	58	55	....	30	....
Razanama	16	17	14	18	18	....	13	....
Total	266	364	279	427	341	....	393	....

XI.—*Appeals from Native Judges, or Principal Sudder Ameens, to Zillah Judges.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Appealed.....	21	16	16	19	37	....	74	....
Reversed.....	3	6	3	3	1	....	7	....
Confirmed	5	13	6	4	2	....	16	....
By Default	....	1	2	5	2	....	....	....
Razanamah.....	....	....	....	....	....	....	1	....
Total	8	20	11	12	5	....	24	....

XII.—*Appeals from Registrars to Zillah Judges.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Appealed.....	61	70	54	81	47	....	4	....
Reversed.....	10	15	17	26	16	....	16	....
Confirmed	28	41	22	44	25	....	27	....
By Default	8	1	7	7	4	....	1	....
Razanamah.....	7	2	2	3	1	....	2	....
Total	42	59	48	80	46	....	46	....

XIII.—*Appeals from Assistant Judges to Zillah Judges.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Appealed.....	68	53	49	77	39	....	37	....
Reversed.	5	15	11	19	11	....	12	....
Confirmed	17	39	25	34	36	....	31	....
By Default	4	9	4	10	12	....	16	....
Razanamah.....	....	2	2	1	....	....	1	....
Total	26	65	42	64	59	....	59	....

XIV.—*Sudder Adawlut Appeals.*

	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Decided	3	13	16	14	7	....	33	....
Confirmed	2	6	4	6	3	....	23	....
Dismissed	....	6	8	8	1	....	2	....
Reversed.....	1	1	4	....	1	....	3	....
Depending	57	54	42	31	33	....	75	....
Remanded	....	....	....	....	1	....	5	....
Total	63	80	74	59	46		141	

XV.—*Description of Parties in the foregoing Suits.*

		1841.		1842.		1843.		1844.	
		1	2	1	2	1	2	1	2
Plaintiffs.	Zemindars.....	Given for 5 Years.	2,905	2,856	2,840	2,990	....	2,907	....
	Renters		1,245	1,634	6,056	1,108	....	1,082	....
	Ryots.....		8,625	7,581	8,211	7,957	....	8,999	....
	Merchants and Others.....		23,733	19,956	24,809	21,186	....	21,911	....
Total			36,508	32,027	31,916	33,541		34,899	

XV.—*Descriptions of Parties in the foregoing Suits*—continued.

		1841.		1842.		1843.		1844.	
		1	2	1	2	1	2	1	2
Defendants	Zemindars	Given for 5 Years.	4,331	3,601	4,215	4,105	....	3,945	....
	Renters		1,925	2,048	2,307	1,705	....	2,107	....
	Ryots		17,926	15,580	16,814	16,319	....	16,383	....
	Merchants and Others		20,598	17,315	20,848	17,813	....	13,953	....
Total									

Civil Justice: Bombay Government.

The Returns from Bombay have not a common form with those of either of the other Governments of India. In some tabular statements they are deficient, but this deficiency is more than compensated by the introduction of other returns, which are not sent from Bengal, Madras, or Agra; particularly the Table No. I., which gives a compendious view of the whole number and disposition of Civil cases for entire years, leaving details to be indicated in the tables from the respective courts. The valuable Table No. XI. is also not sent from the other Governments, showing the number of debtors confined at the instance of individuals and at the instance of Government. The Bombay Returns are defective in the Appellate tables, and in filling up the details of the working of the respective courts. On the whole, however, they are sufficiently perspicuous and satisfactory, and show the same efficient results in the employment of native judges, as in the returns I formerly submitted to the Statistical Society. Of the total number of original suits before all the courts, the European judges decided in the half year of 1842, nearly 2·15 per cent., and 1·34 per cent. respectively, and for the entire years 1843 and 1844, within a fraction 1·18 and 1·32 per cent. respectively. The native judges, for the half years of 1842, decided 97·85 per cent., and 98·66 per cent. respectively, of the whole number of original suits, and for the entire years 1843 and 1844, they decided 98·92 per cent., and 98·68 per cent. respectively.

In regard to appeals from the decisions of native judges it appears that in 1843 the returns give 3,291 cases appealed out of 72,959, or about 4·78 per cent., and of this number 1,061 were reversed, or 1·45 per cent., not in fact three cases reversed out of every 200 decided. In 1844 the number of cases decided by native judges was 74,067, and of these 3,571 were appealed, or 4·82 per cent. of this number 936 were reversed, or 1·26 per cent: that is, not more than 1¼ cases were reversed in 100 tried. This affords strong testimony to the carefulness of the decisions by the native judges. The discrepancies in these proportions and those of decisions by European judges are so considerable, as indicated by the returns, that further explanations are necessary to account for them. The returns do not afford the means of stating the number of appeals from each of the classes of Judges, European and Native.

The annual current business of the whole courts would appear to have been well kept down, and arrears to a small extent diminished. The Sudder Adawlut, in 1843, diminished its arrears, and in 1844 cleared off the business of the year.

Table XI. of these returns gives the number of debtors confined at the instance of the Government and of individuals. An opinion obtains in Europe, and even in India to a certain extent, that the land tax presses very severely upon the people. Now if this were really the case, the debtors to Government would be numerous, and the incarcerations proportionally numerous; but it would appear from this table that, in the half years of 1842, there were respectively only nine, and five farmers, in jail at the instance of Government. In the year 1843 only five, and in the year 1844 this small number was reduced to two, and this under a Government controlling between six and seven million of souls.

I.—*Original Suits on the File of the Adawlut Courts.*

	1841.		1842.		1843.	1844.
	1	2	1	2		
On the File, 1st Jan., 1842	....	....	8,848	9,336	9,287	9,319
Instituted during the half-year	....	....	34,826	39,464	74,072	74,863
Total.....	....	....	43,674	48,800	83,359	84,182
Decided on merits	....	....	20,411	25,675	44,016	45,338
Dismissed	....	....	1,874	1,680	3,969	3,870
Dismissed in default	....	....	4,234	3,379	5,034	4,228
Adjusted	....	....	7,651	8,770	19,517	20,229
Depending	....	....	9,504	9,296	9,319	9,076
Total, 31st July	....	....	43,674	48,800	82,855	82,741
Decided by European Judges	....	....	728	513	998	990
Ditto by Native Judges	....	....	33,424	*38,929	72,959	74,067
Ditto by Punchaut	....	...	78	22	83	49
Total decisions.....	....	....	*34,170	*39,464	†74,040	‡75,106
Remaining, 1st Jan, 1843.						

* European Judges, 2·15 per cent. † 7·34 per cent. .... 1·18 and ‡ 1·32 per cent.
Native ditto 97·75 „ 98·66 „ .... 98·72 ‡ 98·68 „

II.—*Moonsiffs.*

	1841.		1842.		1843.	1844.
	1	2	1	2		
Depending	....	....	....	....	....	....
Admitted	....	....	....	..	....	....
Decided	....	....	24,940	29,400	54,577	56,143
Depending, end of half-year	....	....	....	....	....	....

III.—*Sudder Ameens.*

	1841.		1842.		1843.	1844.
	1	2	1	2		
Depending	....	....	....	....	....	....
Admitted	....	....	....	....	....	....
Disposed of	....	....	5,892	6,718	13,123	13,406
Depending, end of half-year	....	....	....	....	....	....

IV.—*Principal Sudder Ameen.*

	1841.		1842.		1843.	1844.
	1	2	1	2		
Depending	....	....	....	....	....	....
Admitted	....	....	....	....	....	....
Disposed of	....	....	2,592	2,811	5,259	4,518
Depending, end of half-year	....	....	....	....	....	....

V.—*European Judges.*

	1841.		1842.		1843.	1844.
	1	2	1	2		
Depending	....	....	....	....	....	....
Admitted	....	....	....	....	....	....
Disposed of	....	....	728	513	998	990
Depending, end of half-year	....	....	....	....	....	....

VI.—*Sudder Adawlut.*

	1841.		1842.		1843.	1844.
	1	2	1	2		
Depending	....	....	129	128	89	79
Admitted	....	....	65	71	121	79
Disposed of	....	....	59	107	121	158
Dismissed, on default	....	....	4	3	8	73
Adjusted	....	....	3	....	5	5
Confirmed	....	....	39	58	60	40
Amended	....	....	2	8	4	2
Reversed	....	....	18	41	54	31
Depending, end of half-year	....	....	128	89	79	79

VII.—*Appellate Jurisdiction.*

	Appeals from European Judges.						Appeals from Native Judges.					
	1841.		1842.		1843.	1844.	1841.		1842.		1843.	1844.
	1.	2.	1.	2.			1.	2.	1.	2.		
On the file, July 1, 1842	..	..	1,303	1,354	1,406	1,190	..	..	..	..	..	..
Referred from European Judges	..	..	261	399	610	564	..	..	..	..	..	..
Ditto from Natives	..	..	..	..	..	..	..	..	1,691	1,977	3,291	3,571
Confirmed	..	..	239	270	414	311	..	..	736	914	1,699	1,391
Amended	..	..	42	21	57	39	..	..	213	273	481	374
Reversed	..	..	83	81	132	13	..	..	407	570	1,061	936
Total disposed of	..	..	1,901	2,324	4,117	3,667	..	..	..	..	..	..
Depending	..	..	1,354	1,406	1,190	1,658	..	..	..	..	..	..

VIII.—*Aggregate Value of the Cases.*

	1841.		1842.		1843.	1844.
	1	2	1	2		
						Rupees.
Before the Sudder Adawlut	....	....	104,877	53,472	120,464	27,819
Original Suits before other Courts	....	....	1,798,321	2,180,372	4,024,151	3,583,594

IX.—*Description of Original Suits.*

		1841.		1842.		1843.	1844.
		1	2	1	2		
Plaintiffs	Zemindars	....	....	1,958	1,983	3,333	....
	Ryots	....	....	12,642	12,785	23,955	....
	Miscellaneous	....	....	16,137	22,469	37,277	....
Defendants	Zemindars	....	....	6,759	6,289	10,982	....
	Ryots	....	....	10,983	14,166	24,441	....
	Miscellaneous	....	....	17,693	22,194	39,673	....

X.—*Length of time Suits have been upon the File, Original and Appeals.*

		1841.		1842.		1843.	1844.
		1	2	1	2		
Sudder Adawlut	Under a Year	....	....	65	74	62	53
	Above a Year	....	....	63	65	17	26
Other Courts	Under a Year	....	....	9,323	9,111	9,062	8,904
	1 to 2 Years	....	....	162	166	206	142
	Above 2 Years	....	....	19	19	51	30
Appeal Cases	Under a Year	....	....	1,287	1,378	1,163	1,528
	Above a Year	....	....	67	28	27	130

XI.—*Civil Debtors in Jail.*

	1841.				1842.				1843.		1844.	
	1.		2.		1.		2.					
	No.	Amt	No.	Amt	No.	Amt. Rs.	No.	Amt. Rs.	No.	Amt. Rs.	No.	Amt. Rs.
At the instance of individuals.....	..	..	..	..	121	8,931	129	24,324	150	112,752	123	101,992
For arrears of revenue at instance of Government..	..	..	..	..	9	4,223	5	4,008	5	128	2	348
Total number in jail	..	..	..	..	130		134		155		125	

Criminal Justice: Bengal Government.

The constitution and power of the several Criminal Courts having been explained in the tables published by the Statistical Society, to which the present tables are supplementary, little further is requisite than a reference to the tables themselves for an explanation of the working of the several courts. It would appear that the number of offenders had increased before the Magistrates and Lower Courts from 65,908 in 1842, to 87,838 in 1844; but the acquittals had increased in a greater ratio. Before the Sessions Judges also the offenders had increased from 3,659 in 1842, to 4,559 in 1844; but the acquittals had also increased in a greater ratio. Before the highest Criminal Court the cases referred had diminished from 642 in 1841, to 547 in 1844; indicating that very atrocious cases had been of less frequent occurrence; and in this court also the acquittals had increased. Out of 322,394 prisoners tried in the several courts, in the four years under review, only 112 were condemned to death by the Nizamut Adawlut, being only 0·034 per cent. of the prisoners, or one in 2,878 criminals. It will be seen that in 1841 there were 99 prisoners sentenced to imprisonment for life by the Nizamut Adawlut, and only 19 in 1844, while in 1841 only 26 were transported, and in 1844 there were 79. These changes resulted from the Court of Directors disapproving of imprisonment for life and suggesting transportation instead. Contrasting the sentences of death in England and Wales for the corresponding years of 1841, 1842, 1843, and 1844, with the sentences in India, it will be found that the contrast is most favourable to the leniency of the Indian Courts. The following is from the Official Criminal Returns of England and Wales.

Years.	Prisoners.	Sentences of Death.
1841	27,760	80
1842	31,309	57
1843	29,591	97
1844	26,542	57
Total.....	115,202	297

Which give a per centage of 0·258, or one sentence of death to every 388 prisoners, the proportion in Bengal being one in 2,878. And it will be borne in mind that this is for a period subsequent to the

modification of the English sanguinary code. In 1841 the committals to the population were one in 619 souls. In Bengal, in the same year, the prisoners being 67,720, and the population about forty-two millions; this proportion, singularly enough, would be one committal to 620 souls.

I may here state that the returns from India do not distinguish the age or sex of the prisoners, or the amount of instruction they may have received.

The important Table, No. VI., showing the Criminal business performed by the Magistrates and their subordinates, including the native judges, is only for the year 1842, and is the only one received. There are not any tables of the numbers of prisoners in the jails, nor returns of the average imprisonment of offenders before conviction by the Nizamut Adawlut; nor tables of appeals, nor tables of crimes.

The blanks in the tables from the non-regulation provinces result from the non-receipt of the returns for 1843 and 1844. It does not appear from the returns that Moonsiffs exercise criminal jurisdiction; but Principal Sudder Ameens and Sudder Ameens do.

I.—*Magistrates, and Officers subordinate to them.*

	1841.	1842.	1843.	1844.
Prisoners	67,720	65,098	85,319	87,830
Acquitted	19,569	18,667	36,310	33,935
Convicted	41,806	40,642	41,911	46,609
Committed for Trial before Sessions Judge	3,437	3,287	3,782	4,085
Pending	2,190	1,857	2,177	2,004
Otherwise disposed of	....	639	1,139	656
Transferred	..	....	....	541

II.—*Sessions Judges.*

	1841.	1842.	1843.	1844.
Under Trial	3,939	3,659	4,270	4,559
Acquitted	895	953	1,113	1,237
Convicted and Sentenced	2,064	1,772	2,096	2,313
Referred to Nizamut Adawlut	556	503	592	475
Pending	360	377	409	467
Otherwise disposed of	....	54	60	52
Transferred	....	....	....	15

III.—*Nizamut Adawlut.*

	1841.	1842.	1843.	1844.
Under Reference	642	546	574	517
Acquitted	168	156	127	186
Convicted	384	305	380	316
Pending	54	57	23	10
Otherwise disposed of	...	28	38	16

IV.—*Sentences by the Nizamut Adawlut.*

	1841.	1842.	1843.	1844.
Death	29	16	41	26
Transportation	26	56	61	79
Imprisonment for life	99	43	11	19
Ditto 14 years and upwards	54	51	46	42
Ditto 7 ditto ditto	60	39	76	49
Ditto 3 ditto ditto	57	52	66	35
Ditto for less than 3 years	59	48	70	14
Ditto for 21 years	....	....	....	1

V.—*Sentences of Imprisonment by the several Courts.*

	1841.	1842.	1843.	1844.
From 1 to 16 years	9,026	8,558	....	....
For less than 1 year	11,824	11,605	....	....

VI.—*Magistrates, and Joint and Assistant Magistrates and Native Judges,* 1842.

	By Magistrate.	By Joint Magistrate.	By Assistant Magistrate.	By Principal Sudder Ameens.	By Sudder Ameens.	By Law Officer.	Total disposed of.	Number of Prisoners.
Number of Prisoners	....	....	....	....	....	....	....	65,098
Acquitted	10,167	3,909	769	999	843	1,980	18,667	....
Convicted	21,868	8,700	2,051	1,752	1,789	4,482	40,642	....
Committed for Trial before Sessions Judge	....	....	....	....	....	....	3,287	....
Otherwise disposed of	....	....	....	....	....	....	639	
								63,235
Pending	....	....	....	....	....	....	....	1,857
Total	....	....	....	....	....	....	....	65,092

VII.—*Punishments by Magistrates and Joint Magistrates, and Native Judges.*

	1841.	1842.	1843.	1844.
Imprisonment above 3 years	....	....	722	862
Ditto ditto 2 ditto	....	....	968	1,018
Ditto ditto 1 ditto	....	....	1,552	1,531
Ditto ditto 6 months	....	....	3,149	2,887
Less than 6 months	....	....	10,451	11,060
Fined	....	....	22,164	24,741
On Security	....	....	1,225	1,679
Dismissed	....	....	1,525	1,694
Flogged	....	....	160	1,137

VIII.—*Punishments by Sessions Judges.*

	1841.	1842.	1843.	1844.
Imprisonment, 16 years	....	....	....	27
Ditto, 14 years and upwards	....	....	....	130
Ditto, 7 ditto ditto	....	....	703	642
Ditto, 3 ditto ditto	....	....	785	999
Ditto, 2 ditto ditto	....	....	239	181
Ditto, 1 year	....	....	156	123
Less than 1 year	....	....	....	110
Fined and discharged	....	....	....	3

IX.—*Extra Regulation Provinces by Magistrates and their Assistants, and Native Judges.*

	1841.	1842.	1843.	1844.
Prisoners	10,094	10,149	....	....
Acquitted	3,621	3,903	....	.
Convicted	6,010	5,800	. ..	....
Committed	183	172	....	....
Otherwise disposed of	22	26	....	....
Pending	258	248	....	....

X.—*Sessions Judges.*

	1841.	1842.	1843.	1844.
Under Trial	329	217	....	...
Acquitted	80	43	....	...
Convicted	157	112	....	. .
Referred to Nizamut Adawlut	55	30	....	....
Otherwise disposed of	14	10	....	.
Pending	23	22	....	....

XI.—*Nizamut Adawlut.*

	1841.	1842.	1843.	1844.
Under Reference	39	40	....	. .
Acquitted	7	8	.. .	.
Convicted	26	25	. ..	.
Remanded to Sessions Judge	7	. ..	....	
Otherwise disposed of	2	.. .	...	. .
Pending	3	7	.	

XII.—*Sentences by Nizamut Adawlut.*

	1841.	1842.	1843.	1844.
Death	2	6	....	....
Transportation for Life	....	4	....	....
Imprisonment for Life	7	5	....	....
Ditto 14 years and upwards	4	4	....	....
Ditto 7 ditto ditto	7	1	....	....
Ditto 3 ditto ditto	3	5	....	....
Ditto less than 3 ditto	3	....	....	....

XIII.—*Sentences of Imprisonment by the several Courts.*

	1841.	1842.	1843.	1844.
From 1 to 16 years	151	115	....	....
For less than 1 year	2,471	2,451	....	....

Criminal Justice: Agra Government.

The forms and character of the returns from the Agra Criminal Courts differ essentially from those from the Bengal Courts. While there are not any returns corresponding to No. VI. of the Bengal returns; or any return of sentences by the different Courts; the Agra returns have the advantage of Tables of Crimes, of the prisoners in the jails, of the ordinary periods of cases referred to the Nizamut Adawlut, and also of the returns of appeals; none of which are in the Bengal returns. The chief features of these returns are the modifications or reversals of sentences under appeal; and the formidable array of murders, compared with other crimes referred to the Nizamut Adawlut; but this is partly accounted for by the court taking cognizance only of the highest class of crimes. The modifications or reversals of sentences by the Sessions Judges and Commissioners upon appeals against sentences of the Magistrates, Joint Magistrates, and Native Judges, would appear to be very considerable.

1.—*Magistrates and Joint Magistrates.*

	1841.	1842.	1843.	1844.
Prisoners under trial	41,047	47,000	....	....
Acquitted and discharged	12,259	13,496	....	....
Convicted and sentenced	20,969	24,217	....	....
Committed for trial before Session Judges	3,102	326	....	....
Pending	....	....	..	....

II.—*Assistants, Principal Sudder Ameens, and Sudder Ameens, included in the above total Prisoners.*

	1841.	1842.	1843.	1844.
Acquitted and discharge	1,115	2,466	....	....
Convicted and sentenced	2,366	3,382	....	....
Otherwise disposed of	....	....	....	....
Pending	....	....	....	....

III.—*Sessions Judges, by Appeals from Magistrates and Joint Magistrates.*

	1841.	1842.	1843.	1844.
Total Prisoners	1,992	2,100	....	....
Confirmed	1,126	1,211	....	....
Modified or reversed	693	600	....	....
Otherwise disposed of	....	....	....	....
Pending	....	....	....	....

IV.—*Commissioners, by Appeals from Magistrates and Joint Magistrates.*

	1841.	1842.	1843.	1844.
Total Prisoners	1,185	1,317	....	....
Confirmed	625	692	....	....
Modified or reversed	541	384	....	....
Otherwise disposed of	....	....	....	....
Pending	....	....	....	....

V.—*Number of Persons under Trial by the Sessions Judges.*

	1841.	1842.	1843.	1844.
Under trial	3,608	3,288	....	....
Acquitted and discharged	1,032	722	....	....
Convicted and sentenced	1,764	2,733	....	....
Referred to Nizamut Adawlut	513	543	....	....
Pending	...	....	....	....

VI.—*Appeals to the Nizamut Adawlut.*

	1841.	1842.	1843.	1844.
Under trial.....	172	86	....	....
Confirmed	77	32	....	....
Modified or reversed	91	38	....	....

VII.—*Cases referred to the Nizamut Adawlut.*

	1841.	1842.	1843.	1844.
Under reference	613	666	....	....
Acquitted and discharged	85	70	....	....
Convicted and sentenced	423	515	....	....
Returned	23	12	....	....

VIII.—*Crimes against Persons under reference to the Nizamut Adawlut.*

	1841.	1842.	1843.	1844.
Murder	427	354	....	....
Homicide, not amounting to Murder	....	3	....	....
Dacoitée	87	111	....	....
River ditto	....	3	....	....
Highway Robbery	17	8	....	....
Burglary	31	13	....	....
Theft	44	48	....	....
Affray	8	11	....	....
Assault	4	12	....	....
Arson	1	1	....	....
Suttee	2	....	....	....
Miscellaneous	92	102	....	....

IX.—*Prisoners in the Jails.*

		1841.	1842.	1843.	1844.
Under sentence.	Labour in irons, 7 years of which are unexpired	2,792	3,035	....	....
	Ditto ditto, of which less than 7 years are unexpired	13,206	12,526	....	....
	Labour with irons, redeemable by fine	1,829	2,456	....	....
	Imprisonment without labour, with or without fine	1,525	1,373	....	....
Total		19,352	19,390	....	....

X.—*Ordinary Periods of Cases Referred to the Nizamut Adawlut.*

	From Apprehension to Commitment.	From Commitment to Reference.	Transmission.	From Receipt of Reference to Sentence.	Total from Apprehension.
	Days.	Days.	Days.	Days.	Days.
1841	41	52	12	18	123
1842	44	41	9	12	106

Criminal Justice: Madras Government.

The Returns for Criminal Offenders from Madras are for half-yearly periods, a practice which will be discontinued for the future. They embrace returns from the Village Police Courts, which do not form part of the returns from the other Presidencies. The Village Police Officer (Native) can imprison for a few hours only, or put into the stocks. The District Police Officer (Native) can fine to the amount of three rupees (six shillings), or confine for twenty-four hours with or without labour, and flog under the authority of the Magistrate. The power of the Magistracy and Judges of the several courts is shown by the punishments inflicted. It would not appear from the returns that the very important permission to appeal in criminal cases is in operation under the Madras Government. The returns, like those of Bengal and Agra, are destitute of the table affording a compendious view of the criminal business of all the courts; there are not any tables of the number of prisoners in the jails; none of the ordinary period of cases before the Foujdarry Adawlut; nor tables of crimes, and of course no tables of appeals. On the other hand, the business of the several courts and the punishments adjudged are given with a detailed perspicuity superior to that in the returns from the other Presidencies.

The sentences of death are given only for the second half of 1842 to the first half of 1844, both inclusive, a period of two years. The number was 84, and the offenders before the several courts for these periods (excluding the Village Courts,) were 271,842, the sentences of death therefore were 0·031 per cent., or one in 3,236 offenders; a singular approximation to the proportions under the Bengal and Bombay Courts.

In the period under review no prisoners were condemned to imprisonment for life.

I.—*Village Police.*

		1841.		1842.		1843.		1844.	
		1	2	1	2	1	2	1	2
Summoned		....	8,072	6,942	5,614	3,849	3,886	4,513	....
Acquitted	After investigation	....	1,525	1,171	1,084	725	761	568	....
	Without investigation upon Razanamah..	....	1,809	1,188	1,299	743	837	692	....
Punished		....	4,738	4,583	3,231	2,385	2,288	3,253	....

II. *District Police.*	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Summoned and depending 1st July	....	58,697	55,756	60,129	54,055	65,378	60,841	....
Acquitted, after investigation	....	19,649	19,374	20,379	18,020	21,198	19,901	....
Discharged, upon Razanamah, &c.	....	22,140	19,854	22,443	20,449	24,513	22,716	....
Punished, without reference to Magistrate	....	14,572	13,909	15,312	13,532	17,120	15,171	....
Punished, after reference to Magistrate	...	1,349	1,221	1,154	1,217	1,552	1,619	....
Total disposed of by District Police....	....	57,710	54,358	59,288	53,218	62,283	59,407	....
Total disposed of by the Magistrates.....	....	....	25	....	....	....	....	....
Depending	....	987	1,373	841	337	1,095	1,434	....

III. *Magistracy.*	1841.		1842.		1843.		1844.	
	1	2	1	2	1	2	1	2
Summoned, and under Examination	....	4,388	4,042	4,063	2,995	3,956	4,655	....
Acquitted	....	2,039	2,101	1,574	1,265	1,727	2,084	....
Discharged, on Razanamah, or Dismissed.....	....	843	586	972	442	636	890	....
Convicted	....	1,462	1,341	1,400	1,161	1,470	1,566	....
Total disposed	....	4,344	4,028	3,946	2,868	3,833	4,540	....
Depending	....	44	14	117	127	123	115	....

IV. *Criminal Courts.*	1841.	1842.		1843.		1844.	
	2nd Half.	1st Half.	2	1	2	1	2
Accused	3,117	2,920	3,157	2,811	2,950	3,333	....
Released unconditionally	1,055	975	1,214	940	991	1,161	....
,, on security.....	68	85	71	92	77	95	....
Detained for ditto	120	86	93	107	71	78	.. .
Convicted and punished....	987	761	912	776	854	910	....
Committed for trial.....	773	800	702	696	734	935	....
Under examination.....	110	201	159	198	217	149	....
Escaped	....	....	....	....	....	1	....
Died.....	2	10	6	6	6	4	....
Admitted as approvers	2	1	....	1	....	....	....
Punished in another case	. .	1	....	....	....	....	....

V.—*Courts of Circuit.*

	1841.	1842.		1843.		1844.	
	2nd Half.	1st Half.	2	1	2	1	2
Accused	702	988	582	851	949	1,137	....
Released unconditionally	187	390	158	253	224	333	....
,, on security	82	67	61	95	62	111	....
Convicted and punished	252	318	189	336	323	397	....
Returned to Criminal Judge	11	10	11	19	15	13	....
Referred to Foujdarry Adawlut	147	186	112	111	138	143	....
Postponed	12	6	42	13	180	122	....
Otherwise disposed of	11	6	8	23	3	13	....
Died	....	5	1	1	4	5	....

VI.—*Foujdarry Adawlut.*

	1841.	1842.		1843.		1844.	
	2nd Half.	1st Half.	2	1	2	1	2
Accused	176	160	167	94	144	158	....
Released unconditionally	29	31	33	8	25	35	....
,, on security	15	....	9	1	3	21	....
Convicted	107	119	121	68	111	85	....
Remaining	23	9	....	15	1	6	....
Otherwise disposed of	2	1	4	....	3	....	....
Insane	....	....	....	1	1	1	....
Died	....	....	....	1	....	....	....

VII.—*Punishments—Native Magistrates.*

	Village Police.								District Police.							
	1841.		1842.		1843.		1844.		1841.		1842.		1843.		1844.	
	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.
Confined in Village Choultry	..	..	..	2,581	1,603	1,656	2,177	..	..	..	..	..	..	..	..	..
Do. in the Stocks	..	..	..	650	582	632	775	..	..	..	..	93	99	130	144	..
Fined	..	..	..	..	..	..	..	..	..	..	..	11,379	10,316	13,190	11,432	..
Confined in Choultry with or without labour	..	..	..	..	..	..	..	..	..	..	..	4,855	4,222	5,211	5,065	..
Flogged with authority of magistrates	..	..	..	..	..	..	..	..	..	..	..	141	112	121	120	..

VIII.—*Punishments—European Magistrates and Judges.*

	Magistracy.								Criminal Courts.								Courts of Circuit.								Foujdarry Adawlut.							
	1841.		1842.		1843.		1844.		1841.		1842.		1843.		1844.		1841.		1842.		1843.		1844.		1841.		1842.		1843.		1844.	
	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.
Accused	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Imprisoned	..	..	..	..	..	..	..	..	..	..	..	530	448	507	496	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fined	..	..	..	..	..	..	..	..	..	..	..	278	235	202	288	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Flogged	..	..	..	..	..	..	..	..	..	..	..	1	4	6	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Imprisoned and fined	..	..	..	..	..	..	..	..	..	..	..	42	37	76	54	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Imprisoned and flogged	..	..	..	..	..	..	..	..	..	..	..	61	52	63	66	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Flogged & imprisoned for above 7 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	2	6	21	..	..	..	..	..	..	..	..	..	..
Flogged & imprisoned under 7 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	11	19	37	..	..	..	..	..	..	..	..	..	..
Imprisoned above 7 years without flogging	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	40	119	138	140	..	..	..	..	..	..	..	..	..	..
Imprisoned under 7 years without flogging	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	118	204	159	189	..	..	..	..	..	..	..	..	..	..
Fined and imprisoned	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..
Flogged and discharged	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fined and discharged	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Death	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28	13	17	26	..	..
Transportation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	10	26	24	..	..
Imprisonment for life	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Imprisonment for more than 7 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24	15	40	8	..	..
Imprisonment for 7 years and under	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	54	30	19	26	..	..
Otherwise disposed of	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Criminal Justice: Bombay Government.

The Criminal Returns from the Bombay Criminal Courts have the great advantage over the returns from the other Presidencies of being preceded by a table giving a compendious view of the criminal business of all the courts, followed by detailed returns of the business before each class of courts. They comprise also tables of appeals, and returns of prisoners in jails; but want the table of the ordinary periods of cases referred to the Nizamut Adawlut, and the returns of crimes met with in the returns from the Agra Government; the returns from the minor courts for the year 1844 are imperfect, and the appeal cases before the Nizamut Adawlut for 1844 are not filled in. As under the Bengal Government, the number of offenders apprehended had considerably increased from 46,946 in 1842 to 60,504 in 1844. The total number of prisoners tried in the years 1843 and 1844 was 113,080, and of this number 40 were condemned to death, being 0·035 per cent., or one in 2,827 offenders; a singular approximation to the proportions under the Bengal Government.

The very great importance of permitting appeals in criminal cases is manifested in 90 sentences being annulled and 89 mitigated in 1843, out of a total number of 1,021 sentences appealed or called for; nor would it appear that there is great risk of the Nizamut Adawlut being overwhelmed by appeals, since the 1,021 cases out of 27,100 convictions in 1843, in all the courts, was only 3·76 per cent., or one appeal in 26½ convictions.

I.—*General View.*

	1841.		1842.		1843.	1844.
	1	2	1	2		
Persons under trial	....	....	23,422	23,524	52,576	60,504
Remaining	....	....	773	1,050	....	....
Total		....	24,195	24,574	....	....
Acquitted	....	....	11,378	11,245	22,314	26,414
Convicted	....	....	11,865	12,411	25,553	28,441
Otherwise disposed of	....	....	....	....	1,287	....
Discharged on security	....	....	....	.. .	....	1,235
Imprisoned in default	....	....	....	....	....	136
Banished the Zillah	....	....	....	. ..	....	58
Committed to Sessions Court	....	....	....	....	2,536	3,022
Deaths and Escapes	....	....	2	7	....	32
Depending	....	....	1,050	711	866	7,106
Total	....	. ..	24,195	24,574	52,576	60,504

II.—*Tried by District Police.*

	1841.		1842.		1843.	1844.
	1	2	1	2		
Acquitted	....	....	9,330	8,942	.. .	....
Convicted	....	....	9,387	9,369	21,434	23,763
Remaining	....	....	584	314	....	....
Total	....	....	19,301	19,125	....	....

III.—*Magistrates and Assistants.*

	1841.		1842.		1843.	1844.
	1	2	1	2		
Acquitted	....	....	1,539	1,799	....	....
Convicted	....	....	1,805	1,953	4,139	4,678
Remaining	....	....	291	183	....	....
Total	....	....	3,635	3,935	....	....

IV.—*Sessions Judges and Assistants.*

	1841.		1842.		1843.	1844.
	1	2	1	2		
Otherwise disposed of	....	....	....	....	10	....
Acquitted	....	....	409	504	961	950
Convicted	....	....	673	789	1,344	1,611
Remaining	....	....	175	214	229	457
Referred to Nizamut	....	....	....	....	205	226
Total	....	....	1,257	1,507	2,749	3,251
Deaths and Escapes	....	....	2	7	....	7
Grand Total	....	....	24,195	24,574	2,749	3,258

V.—*Operation of Nizamut Adawlut.*

	1841.		1842.		1843.	1844.
	1	2	1	2		
Acquitted	....	....	....	....	22	18
Committed	....	....	....	....	183	204
Otherwise disposed of	....	....	....	....	....	4
Total	....	....	....	....	205	226

VI.—*Nizamut Adawlut Appeal Cases.*

	1844.	1843.
Petitions rejected	....	588
Sentences confirmed	....	254
Ditto mitigated	....	89
Ditto annulled	....	90
Total	....	1,021

VII.—*Sentences by District and Village Police Officers.*

	1843.	1844.
Imprisonment, One Month and under, with or without Fine	21,434	....

VIII.—*Sentences by Magistrates and their Assistants.*

	1843.	1844.
Imprisonment, 9 to 12 mths	382	....
Ditto, 6 to 9 months	323	....
Ditto, 3 to 6 months	809	....
Ditto, 3 months and under	2,615	....
Flogged and discharged	10	....
Total	4,139	....

IX.—*Sentences by Sessions Judges.*

	1843.	1844.
Imprisonment, 5 to 7 yrs	88	....
Ditto, 3 to 5 years	218	....
Ditto, 1 year and under	1,038	....
Total	1,344	....

X.—*Sentences by the Nizamut Adawlut.*

	1843.	1844.
Death	19	21
Transportation	67	45
Imprisonment for life	4	8
Ditto, 10 to 14 years	8	13
Ditto, 7 to 10 years	37	75
Ditto, less than 7 years	48	42
Otherwise disposed of	....	4
Total	183	208

XI.—*Number of Convicts in Jails.*

	1843.	1844.
Imprisoned for life	221	245
Ditto, 10 to 14 years	240	253
Ditto, 7 to 10 years	716	689
Ditto, less than 7 years	3,537	3,916
Total on 31st Dec. 1843	4,714	5,103
Deaths in the year	....	299

From the JOURNAL OF THE STATISTICAL SOCIETY OF LONDON,
FEBRUARY, 1850.

CONTRIBUTIONS

TO THE

STATISTICS OF SUGAR

PRODUCED WITHIN THE BRITISH DOMINIONS IN INDIA.

BY

LIEUT.-COLONEL W. H. SYKES, F.R.S.

[Read before the Statistical Section of the British Association, at Birmingham, September, 1849.]

THE Chamber of Commerce in Bengal, in September 1846, applied to the Government of India to procure for them a Statistical Return of lands cultivated in Bengal and the north-western provinces for the growth of Sugar-cane or Date trees, for the production of Goor or Sugar, desiring at the same time to know the probable consumption in each district. The object of the Chamber in requesting this information was to ascertain the capabilities of the soil in India, for extending the cultivation of sugar at a cost which would enable it to compete in the home markets with the foreign slave and free labour sugar, the prohibitory duties on which were removed by 9 and 10 Vict., cap. 63.

The Indian Government complied with this request, extending the application to the Presidencies of Madras and Bombay. On the receipt of the required information, the Indian Government, in 1848, caused the tabulated statements, with explanations of them, to be printed; constituting an official document. Although this document may be in the hands of interested parties in India, it has not been published in Europe, and is most probably little known. I may, therefore, be doing a certain amount of good in giving to it some publicity by submitting it to the Statistical Section in as condensed a form as is consistent with a perspicuous understanding of its details. It is not to be denied, however, that the numerous instances of *estimated* land under cane cultivation—estimated produce,—estimated consumption—and the marked discrepancies between these estimates, even from neighbouring districts, much more from distant parts of the country, lessen very much the value of the Returns, so that on the whole, they can only be considered as approximations to the truth: still I believe they are the only approximations we have. The document is designated "Statistics of British East India Sugar," but I cannot claim for it a better title than "Contributions to the Statistics of Sugar produced in India."

Sugar in India is produced from several sources: the sugar-cane,

of which there are several varieties—the Date (*Phœnix dactylifera*), Palmyra (*Borassus flabelliformis*) and Cocoa-nut (*Cocos nucifera*) trees: chiefly, no doubt, from the cane, but the produce from the palm tribe is not inconsiderable; for instance:

	Number of Date Trees used for Sugar.	Produce of of Goor in Maunds of 82 lbs each.	Equal to cwts. of Goor.	Equal to cwts. of Sugar.	Produce from 100 Trees.	Produce in lbs. per 100 Trees.
					Mds. S. C.	
Bengal	63,90,590	10,37,445	7,59,558	2,86,519	16 9 5¾	1,330
North-Western Provinces	2,58,071	654	470	156⅔	3 12 12*	270
Madras	64,68,368	6,62,218	4,84,838	1,61,612⅔	10 9 8	838
Bombay	2,50,063	216	158	53⅓	No average	....

In the returns from Bengal and the north-western provinces, Date trees only are mentioned. In the returns from Madras and Bombay the date, palmyra, and cocoa nut trees are included, but very little sugar is made from these trees at Bombay; the juice which is daily drawn from the trees for the most part being fermented and converted into an inebriating liquor called Tarree or Toddy. As the Return of goor from the north-western provinces from this source is also small, the date trees are no doubt applied to the same purpose as in Bombay, for instance:—in the Delhi district 19,738 date trees produced 528 maunds of goor, and in Rohtuk 451 trees are represented to have produced 126 maunds; and in no other district of the north-western provinces do the remaining trees appear to be used for the production of sugar. The average produce to 100 trees in Bengal and Madras has reference only to trees of a mature age and in full bearing. The chief consumption of the saccharine juice of the cane, and that of the date, palmyra, and cocoa-nut trees is in the form of goor, which results from the first process of boiling down the juice to the consistency of bread-dough or putty. Subsequent manipulations improve the goor to khaur, dullooa, and sugar; 40 seers (82⅔ lbs.) of goor produce 26 seers (53¼ lbs.) of khaur, but 40 seers of goor produce only 13⅓ seers (27⅓ lbs.) of sugar. Dullooa is of a quality intermediate between khaur and sugar.

The area under sugar-cane cultivation is returned in Bengal in beegahs of 14,400 square feet, equal, therefore, very nearly, to one-third of an acre; the produce in goor or sugar is returned in maunds of 40 seers, equal to 82⅔ lbs. avoirdupois, each seer, therefore, weighing 2·057 lbs., and the seer is divided into 16 chettaks of 900 grains each.

The following is the Return from Bengal, comprising nine territorial divisions, independently of Assam. The information is arranged under the following heads:—Territorial Divisions, Districts, Land under *Cane* Cultivation, Produce of Goor, Produce per Beegah (or acre), Number of Date trees producing Goor, Return of Goor, Produce of 100 Trees, Total Goor produced, Population, Consumption of Goor

* On 19,738 trees only.

per Head, Total Consumption of Goor in each District, Balance of Goor for Export, and, finally, *Average* Produce of Goor per Beegah for each Territorial Division. These several heads of information comprise all that it is desirable to know, provided the facts and figures were accurate. I have no doubt that neither zeal nor intelligence was wanting in collecting the information; but admitting that some of the columns of the tabular statements are filled up from absolute data, with a sufficient assurance of accuracy, the deductions from the details in these statements bring out such discrepant results, that inaccuracies must exist somewhere. For instance: in the produce of goor per beegah, the produce of goor from 100 date-trees, and the consumption per head, the first ranges from 19 maunds 20 seers (1,598 lbs.), in Pubna, of the Moorshedabad division, to 1 maund 38 seers (116 lbs.) at Cachar, in the Dacca division. In regard to the produce from 100 date trees, it varies from 50 maunds 11 seers (4,122 lbs.) at Dacca, in the Dacca division, to 8⅓ seers (17lbs.) only at Balasore, in the Cuttack division; and for the consumption of goor per head of the population we find that it varies from 20 seers (40 lbs.) at Hazareebaugh, in the division of Hazareebaugh, to a seer (2 lbs.), or even less. at Pooneah, Bhaugulpoor division; Rungpoor, Moorshedabad division; and Lohurdugga, and Maunbhoom, in the Hazareebaugh division. And it is not that these contrasts are found in widely separated tracts, differing greatly in physical and social circumstances, but great discrepancies, although not to the extent above noticed, are met with in neighbouring districts. No doubt the varying fertility of the soil, and the age and luxuriant growth of the trees of the palm tribe will occasion very great differences in the products from different localities; and notwithstanding these discrepancies, the averages reduce the final results of the quantity of goor or its equivalent in sugar available for exportation, to a condition which admits of their being subjected to the test of the quantity absolutely exported from Calcutta; and the comparison is unexpectedly satisfactory. The Bengal and Benares divisions have an available export of sugar of 16,90,803 maunds (61,895½ tons), and the quantity actually exported from Calcutta, according to Wilkinson's Commercial Annual in 1845-6 and 1846-7, was respectively 18,39,374 maunds (67,334¼ tons), and 17,15,217 maunds (62,789 tons). The produce of cultivation, therefore, seems understated, and there is probably more truth in the Return from Bengal than an analysis of its details would seem to justify. The districts in which the accuracy of the Returns is questioned for their low produce, are Baraset, Hooghly, Burdwan, Bhaugulpoor, Monghyr, Poorneah, Cuttack, and Koordah. Rungpoor, in the Moorshedabad division, compared with the neighbouring localities, gives a very questionable outturn. Lohurdugga returns more than an average produce, but the neighbouring districts of Hazareebaugh produce infinitely less. The Returns from the Patna division are believed to be correct. The produce from the date trees at Dacca is so disproportionately large as to render the Return very questionable. The smallness of the Return per 100 trees at Jessore, the principal seat of the date-sugar cultivation, is accounted for by the unproductiveness of the young trees planted since the opening of the home market for East India sugar.

The following is the abstract of the Returns from Bengal.

Abstract of Returns of the Manufacture and Consumpti

Division.	District.	Cane Produce. Beegah of 14,400 Square Feet.	Cane Produce. Goor in Maunds of 82 lbs. each.	Produce per Beegah. M. S. C.	Date Produce. Trees Number.	Date Produce. Goor in Maunds of 82 lbs. each.	Produce of 100 Trees.	To Goor Pr
Jessore ...	Jessore*.....	600 0 0	6,585 14 10	10 39 0	25,00,000	3,65,853 26 5	14 25 5½	3,72,439 0 15
	24-Pergunnahs	4,000 0 0	39,024 15 9	9 30 3¾	20,000	5,853 26 5	29 10 11½	44,878 1 14
	Burdwan	37,512 0 0	4,00,160 39 0	10 26 11½	34,177	1,179 20 7	3 18 0¾	4,01,340 19 7
	Hooghly	18,000 0 0	1,46,341 18 8	8 5 3¼	5,000	1,951 8 12	39 0 0	1,48,292 27
	Nuddea.....	3,479 0 0	31,323 16 9	9 0 2¼	6,23,823	1,33,456 3 14	21 1 9¼	1,64,779 20
	Bancoorah ...	12,000 0 0	1,17,073 6 13	9 30 3¾	...	...	...	1,17,073 6
	Baraset	4,000 0 0	15,609 30 4	3 36 1¼	6,00,000	1,17,073 6 13	19 20 7½	1,32,682 37
	Total	79,591 0 0	7,56,118 21 5	...	37,83,000	6,25,367 12 8	...	13,81,485 33
Bhaugulpore.	Bhaugulpore...	16,875 0 0	51,219 20 7	3 1 8	4,00,000	...	...	51,219 20
	Dinajpore	30,000 0 0	2,92,682 37 11	9 30 3¾	700	...	...	2,92,682 37
	Monghyr	20,986 0 0	1,01,560 39 0	4 33 9¼	2,00,000	...	...	1,01,560 39
	Poorneah	33,750 0 0	1,95,121 38 0	5 31 4	2,500	...	...	1,95,121 38
	Tirhoot	52,813 0 0	7,80,487 32 3	14 31 2	2,00,600	...	...	7,80,487 32
	Maldah	...	...	...	Unknown	...	...	...
	Total	1,54,424 0 0	14,21,073 7 5	...	8,03,200	...	...	14,21,073 7
Cuttack ...	Cuttack.....	1,543 7 1	10,511 35 6	6 33 2	...	...	...	10,511 35
	Balasore	2,800 6 14	27,808 23 6	9 37 4	11,615	25 24 6	0 8 14¼	27,834 7
	Midnapore	32,701 5 15	3,70,103 14 10	11 12 11¼	...	...	...	3,70,103 14
	Koordah	4,343 4 12	11,988 24 6	2 31 11¼	33,048	...	...	11,988 24
	Total	41,388 4 10	4,20,412, 17 12	...	44,663	25 24 6	...	4,20,438 2
Moorshedabad.	Moorshedabad	1,818 5 8	20,580 9 12	11 15 0¼	30,394	7,488 22 7	24 26 3 1/10	28,068 32
	Bagoorah	12,000 0 0	1,75,609 30 4	14 25 5¾	...	...	...	1,75,609 3
	Rungpore	19,403 0 0	86,764 0 15	4 4 15¼	20	...	...	86,764
	Rajshahye.....	4,000 0 0	50,585 14 10	12 25 13¾	*	...	...	50,585
	Pubna	5,000 0 0	97,560 39 0	19 20 7¾	14,000	3,414 25 5	24 15 9¾	1,00,975
	Beerbhoom ...	10,000 0 0	97,560 39 0	9 30 3¾	...	...	...	97,560 39
	Total	52,221 5 8	5,28,661 13 9	...	44,414	10,903 7 12	...	5,39,564 2
Dacca	Dacca.....	27,000 0 0	98,475 0 0	3 25 14¼	5,000	2,514 0 0	50 11 3¼	1,00,989 0
	Furreedpore...	10,237 0 0	1,27,341 0 0	12 17 9	15,01,000	3,66,098 0 0	24 15 9¾	4,93,439 0
	Mymensing ...	6,994 0 0	44,854 0 0	6 16 8½	...	...	...	44,854 0
	Sylhet	13,157 0 0	1,75,612 0 0	13 13 4¼	10	...	...	1,75,612 0
	Backergunge..	25,000 0 0	1,17,074 0 0	4 27 4¼	50,000	6,342 0 0	12 27 5¾	1,23,416 0
	Cachar	1,200 0 0	2,342 0 0	1 38 1	...	...	...	2,342 0
	Total	83,588 0 0	5,65,698 0 0	...	15,56,010	3,74,954 0 0	...	9,40,652 0
Patna	Shahabad	41,593 15 0	6,43,902 17 9	15 19 3¾	...	...	...	6,43,902 17
	Patna.....	22,687 10 0	4,09,756 3 14	18 28 7	...	...	...	4,09,756 3
	Behar.....	47,265 12 8	8,53,658 21 7	18 2 7¼	...	...	...	8,53,658 21
	Sarun...*.....	51,046 17 8	7,21,951 1 10	14 5 4¼	...	...	...	7,21,951 11
	Total	1,62,593 15 0	26,29,268 14 8	...	...	...	...	26,29,268 14
Assam	No return.....	...	...	...	...	...	...	...
Arracan...	Akyab	74 7 4	248 0 0	3 13 6¾	...	...	...	248 0
	Aeng	1 5 3	...	...	...	...	...	...
	Ramree.....	9 9 1	...	...	...	...	...	...
	Sandoway.....	605 0 0	5,924 0 0	9 31 10½	...	...	...	5,924 0
	Total	690 1 8	6,172 0 0	...	...	...	...	6,172 0
Hazaree-baugh.	Hazareebaugh	51,979 10 0	1,78,027 12 11	3 16 15¾	1,975	...	...	1,78,027 12
	Lohurdugga ...	500 0 0	7,317 2 15	14 25 5¾	300	...	...	7,317 2
	Maunbhoom...	4,370 0 0	24,585 14 10	5 25 0¼	1,028	...	...	24,585 14
	Total	56,849 10 0	2,09,929 30 4	...	3,303	...	...	2,09,929 30
Chittagong.	Chittagong.....	7,392 0 0	60,097 22 7	8 5 4¾	1,00,000	12,195 4 14	12 7 12⅛	72,292 27
	Tipperah	33,333 6 10	1,46,341 9 4	4 15 9¾	...	...	...	1,46,341 9
	Bullooah	...	...	...	56,000	14,000 0 0	25 0 0	14,000 0
	Total	40,725 6 10	2,06,438 31 11	...	1,56,000	26,195 4 14	...	2,32,633 36
Grand Total	9 Div. exclusive of Assam	6,72,071 8 4	67,43,772 16 6	...	63,90,590	10,37,445 9 8	...	77,81,217 25
					9,37,278	The juice of which is reserved for a		
					73,27,868			

of Sugar, Goor, &c., in the Bengal Division.

Population.	Consumption. Rate per Head.	Goor in Maunds of 82 lbs. each.	Remains for Export.	Average Produce from Cane per Beegah in each Division.	Remarks.
		M. S. C.		M. S. C.	
3,81,744	About 4 Seers 14 Chs. of 82 lbs. to a Maund in each District.	46,688 11 11			* Jessore and Furreedpore are the chief fields for the production of Date Sugar in the Bengal province, but the proportion of produce given is so much below known experience that there is reason to suppose that the number of trees here shown include a large proportion planted since the opening of the Sugar Market at home and which are still unproductive.
2,88,000		35,121 38 0			
18,54,152		2,26,116 3 14			
15,20,840		1,85,468 11 11			
2,98,736		36,431 8 12			
4,80,000		58,536 28 4			
5,22,000		63,658 21 7			
53,45,472	.....	6,52,021 3 11	7,29,464 30 2	†9 26 0	† Cane—Date being 16 Mds. 21 Srs. 4 Chs. per 100 trees.
20,00,000	9¾ Seers of ditto	4,87,804 35 2			
12,00,000	3 „ of ditto	87,804 35 1			
8,00,000	9¾ „ of ditto	1,95,121 38 0			
16,00,000	1 „ of ditto	39,024 15 9			
24,00,000	10 „ of ditto	5,85,365 34 2			
4,31,000	3 „ of ditto	‡29,268 10 7			‡ This must be all imported, but chiefly from districts of the same division.
84,31,000	6 Seers of 80 lbs. per Md.	¶14,24,390 8 5	None	9 8 3	¶ The consumption exceeds the produce by 3,317 Mds. 1 Sr.
10,00,000	2½ Seers of 80 lbs.	§ 48,875 30 3			§ The imports are from the Madras Presidency, the Tributary Mehals, &c.
5,56,395	7½ „ of 82 lbs. per Md.	‖1,04,324 2 8			‖ Sugar from the South, and sugar-candy etc., from the North, have ready sale.
6,66,328	16 „ „ „	2,67,455 36 9			The rates of consumption are taken in the average of the other districts, the Collector not having supplied it in his statement.
5,71,160	7 S. 10 C. of 80 lbs. per Md.	1,03,434 10 12			
27,93,883	7½ Seers of 82 lbs.	5,24,090 0 0	None	10 6 5	The consumption exceeds the produce by Mds. 1,03,651 37 14.
10,45,000	2 S. 5 C. 17 G. of 80 lbs.	60,305 18 8			
9,00,000	2 0 0 ditto	43,902 17 9			
25,59,000	0 11 5 ditto	44,238 9 4			
6,71,000	9 0 0 ditto	1,47,292 27 5			
6,00,000	5 0 0 ditto	73,170 29 4			
10,40,876	1 14 8 ditto	48,780 19 8			* There are many trees about Naldore, Pooteah, etc., but the juice is not made into Goor.
68,15,876	2 8 0 of 80 lbs.	4,17,710 1 6	1,21,854 19 15	†10 4 5½	† Date yielding 24 Mds. 22 Srs. 4 Chs. per 100 trees.
6,00,000	10 Seers	1,46,340 0 0			
8,55,000	12 „	2,50,990 0 0			
14,87,000	1 Seer 5½ Chittacks	48,508 0 0			
2,80,000	15 Seers 6 „	1,46,340 0 0			
7,33,800	5 „	89,486 0 0			
Not stated	.....	4,684 0 0			
40,55,800	6¾ Seers	6,86,348 0 0	3,54,304 0 0	6¾ Mds.	
16,00,000	.....	3,12,195 4 14			
12,00,000	.....	2,04,878 1 15			
25,00,000	.....	4,26,829 10 12			
17,00,000	.....	3,31,707 12 10			
70,00,000	7 Seers 5 Chs. of 82 lbs.	12,75,609 30 3	13,53,658 24 5	16 6 13	
...	.....	...	...	...	The only export is 3 to 400 Mds. from a factory.
No return	1 Seer each for Mughs and Burmahs	10,825 0 0			
Ditto	6 Seers for Natives.	3,171 0 0			
Ditto	12 „ for Bengallees.	2,082 0 0			
...	.....	1,175 0 0			
		17,253 0 0	None	...	The consumption exceeds the produce by Mds. 11,081.
3,58,244	20 Seers 6 Chs. of 80 lbs.	1,78,027 12 11			
4,80,000	1 Seer ditto	11,707 11 7			
6,40,000	0 Seer 10 Chs. ditto	9,756 4 0			
14,78,244	5 Seers 6 Chs. of 82 lbs.	1,99,490 28 2	10,439 2 2	3 27 11	
10,00,000	5 Seers 1 Ch. of 80 lbs.	99,609 30 4			
8,06,950	9 „ ditto	1,77,257 12 11			
6,00,000	9 lbs.	64,000 0 0			
24,06,950	5 Seers 10 Chs. of 82 lbs.	3,40,867 2 15	None	*5 2 12	* Date giving 16 M. 31 S. 10 C. per 100 trees. The consumption exceeds the produce by Mds. 1,08,2 3 6 6.
38327225	5 Seers 12½ Chs. of 82 lbs.	55,37,779 34 10	22,43,437 30 10	10 1 5¾	Date yielding 16 M. 9 S. 5 C. per 100 trees, the rate in Jessore being 14 M. 25 S. 5 C. and in Furreedpore 21 M. 15 S. 9¾ C.

intoxicating liquor and not manufactured into Goor.

From the above Return it is seen that under the Bengal Government 672,071 beegahs, or about 224,027 acres, were under sugar-cane cultivation, producing 4,937,404 cwt. of goor, or 82,290 tons of sugar; and 6,390,590 date trees produced 759,558 cwt. of goor, or 12,659$\frac{1}{3}$ tons of sugar, but owing to the average home consumption of nearly 12 lbs., (11$\frac{6}{7}\frac{2}{0}\frac{5}{0}$) per head of goor, equal to 67,577$\frac{1}{2}$ tons of sugar, the quantity remaining for export amounted only to 1,642,320 cwt. of goor, or 27,372 tons of sugar.

North Western Provinces.—The next Return in the order of proximity is that from the north-western provinces; it is brought up to June 1848. The Lieutenant-Governor, Mr. Thomson, has for some years past so carefully and perseveringly elaborated the statistics of his Government with a view to obtaining an accurate knowledge of the entire population and resources of the north-western provinces, comprising an area of 43,937,062 acres, and a population of 19,733,742 souls, that although the Return under its different heads is founded upon estimates, there is full assurance that no labour will have been wanting to insure accuracy as far as was practicable. Discrepancies exist in the out-turn per acre of goor in the different districts, but nothing approaching to those in the Bengal Return, the limits being (with two exceptions where the cane is scarcely grown) from 514 lbs. per acre to 3,480 lbs. per acre, the average being 1,410 lbs. of goor, or 4 cwt. 12 lbs. per acre, the average of Bengal being nearly double this amount. One-third of these amounts is the produce of sugar from goor. In the districts of Agra and Azimghur is found the maximum produce per acre, Azimghur being the principal sugar growing district of the north-western provinces, the adjoining district of Goruckpore being the next greatest, both of them being in the Benares division; Goruckpore and Benares producing respectively 834 lbs. and 750 lbs of goor per acre, while Azimghur is represented to produce 2,790 lbs. per acre.

The estimated number of date trees in the north-western provinces is 258,071, but in the districts of Delhi and Rohtuk only is sugar made from them to a very limited extent; 19,287 trees in Delhi produce 42,240 lbs. of goor, while 451 trees in Rohtuk produce 10,080 lbs. of goor, the average to 100 trees in the first case being 218 lbs., and in the last 2,234 lbs. It is scarcely possible both can be right. The remaining date trees in the north-western provinces are either not tapped at all, or, if tapped, the juice is fermented to make the inebriating liquor Tarree. It is in the estimate of the consumption of goor and sugar per head that the discrepancies are of a character to render its truthfulness more than questionable. In the Dehra Dhoon the inhabitants are represented to consume 96$\frac{3}{4}$ lbs. of goor (32 lbs. sugar) per head per annum, while in Mirzapoor, with a surplus produce, only 6$\frac{1}{2}$ lbs. (2$\frac{1}{6}$ lbs. sugar) per head are consumed, and in the neighbouring district of Benares 64 lbs. (21$\frac{1}{3}$ lbs.) per head are consumed. In the mountains of Kumaon and Gurhwul it may be supposed that less than a pound of goor or sugar may be consumed; but in the thinly peopled valley of the Dehra Dhoon the consumption of 96$\frac{3}{4}$ lbs. per head is improbable. The area under sugar-cane cultivation is estimated at 1,830,538 beegahs or 610,179$\frac{2}{3}$ acres, and the total produce of the north-western province is represented to be 10,758,508 maunds of goor of 80 lbs. each, equal to 384,232 tons, or

of sugar 128,077⅓ tons; and as the consumption is estimated at 217,933 tons, or sugar 72,644⅓ tons, there would remain available for exportation 166,299 tons, or of sugar 55,433 tons; but of this little goes to Calcutta, excepting from the Benares division.

The production of goor from the Saugor division, roughly put at 251,134 maunds, is not included, owing to some accidental arithmetical errors.

The third Return is from the Madas Presidency, comprising 21 districts. In this Return, as in the preceding, there are great discrepancies with respect to the produce from a definite superficial area—in some districts called acres, in others potties—in others cawnies, and elsewhere vailies or moodahs, but the whole are in a parallel column converted into beegahs of 14,400 square feet by a process, which is not explained. In the district of Cuddapah as much as 6,564 lbs. of goor (at Madras called jaggery), nearly 3 tons per acre, equal to one ton of sugar, is produced, while in others (setting aside the woody regions of Malabar and Canara), as Tanjore and Trichinopoly, 1,278 lbs. (11⅓ cwt.) and 1,434 lbs. (12¾ cwt.) are respectively produced. The average of the whole produce per beegah is stated to be 12 mds., 37 seers, 2 ch., or about 27¾ cwt. of goor or jaggery, which would give less than half a ton of sugar per acre. The total extent of land under cane cultivation is 84,947 beegahs, or, at three beegahs to the acre, 28,316 acres, producing 11,00,740 maunds of goor, equal to 13,104 tons of sugar. At Madras the palmyra, as well as the cocoa nut and date tree, are used to produce sugar; the date, however, is only mentioned in Nellore and Cuddapah. The total estimated number of those trees is 6,468,368, but in six of the districts their sap does not appear to be used for the production of sugar, and in several others the Return of jaggery is so small for the number of trees that it is plain the greatest part of the juice is used for conversion into tarree. The chief localities for the production of sugar from the palm tribe are Tinnevelly, which produces more than the half of the total amount, Coimbatore producing one-sixth, and Salem producing about one-fourteenth. The total amount of goor or jaggery from the Return from trees is stated to be 662,218 maunds of 80 lbs. each, equal, therefore, to 23,650½ tons of jaggery, or 7,883½ tons of sugar. Very little reliance can be placed upon the average produce per 100 trees, considering that no statement is made of the number of trees in each district devoted respectively to the production of sugar and tarree. The out-turn in Malabar per 100 trees is put down at 3,092 lbs. of jaggery, while in Rajahmundry, with a million and a half of trees, the return is only 86 lbs. of jaggery per 100 trees. In the estimated consumption per head, there are not those violent contrasts as exhibited in the Return from the north-western provinces. The maximum consumption is 18¾ lbs. in Tinnevelly, and the minimum 1 lb. in Canara, where, from the character of the country and the people, the consumption might be looked for as small. The population of the different districts is not given in the Return, nor the total population under the Madras Government; but in a paper of mine on the Civil Justice of British India, read before the Statistical Society, I had occasion to consider the total population about 13,046,484 souls; dividing this number into the consumption of goor, the result would give about 6⅓ lbs. of jaggery, or nearly 2⅓ lbs. of sugar per person.

Abstract Statement of the Annual Produce and Consumption of Sugar in the Districts of the North-Western Provinces.

Division.	District.	Estimated cultivation of Cane in Beegahs of 27,225 square feet.	Equal to Beegahs of 14,400 square feet.	Estimated produce of Goor from Cane in maunds of 80 lbs.	Average produce per Beegah of 14,400 square feet.	Estimated number of Date Trees.	Estimated produce of Goor from Date in maunds of 80 lbs.	Average produce per 100 Trees.	Estimated consumption of the District, whether in Sugar, Khaur, Goor, or the Raw Cane itself, reduced into their equivalents in Goor in maunds of 80 lbs.	No. of lbs. per head on which the estimate in Column 10 is based.	Quantity remaining in Districts after consumption.	Quantity consumed in Districts above the produce.
					M. S. C.			M. S. C.				
Delhi.	Bhutteeana	....	....	....	....	....	....	....	....	....	....	....
	Paneeput	8,524	16,115	68,718	4 10 9	....	....	....	26,434	8·18	42,284	....
	Hissar	4	7	20	2 34 4	....	....	....	38,857	14·75	....	38,837
	Delhi	10,027	18,957	1,27,141	6 28 4	19,287	528	2 29 6	44,907	11·75	82,234	....
	Rohtuck	4,788	9,052	38,532	4 10 4	451	126	27 37 3	34,719	9·31	3,813	....
	Goorgaon	44	83	229	2 30 5	....	....	....	1,38,097	24·00	....	1,37,868
	Total	23,387	44,214	2,34,640	....	19,738	654	....	2,83,014			
Meerut.	Dehra Dhoon	1,666	3,149	8,600	2 29 $3\frac{2}{4}$	....	....	....	67,725	96·75	....	59,125
	Saharunpore	40,800	77,137	4,22,940	5 19 5	2,097	....	....	2,20,625	36·93	2,02,315	....
	Muzzuffernugur	35,050	66,266	4,78,443	7 8 $12\frac{3}{4}$	....	....	....	1,65,000	30·00	3,13,443	....
	Meerut	46,153	87,220	5,74,194	6 25 $5\frac{1}{3}$	....	....	....	3,73,427	42·25	2,00,767	....
	Boolundshuhur	2,958	5,592	1,620	0 11 $9\frac{1}{3}$	5,620	....	....	2,23,179	40·00	....	2,21,559
	Allyghur	2,614	4,942	17,370	3 20 $9\frac{1}{3}$	9,533	....	....	1,33,056	25·75	....	1,15,686
	Total	1,29,221	2,44,306	15,03,167	....	17,250	....	....	11,83,012			
Kumaon.	Kumaon	198	$374\frac{1}{4}$	167	0 17 $13\frac{3}{4}$	100	....	....	13,000	4·	....	12,833
	Gurhwul	....	....	....	....	....	....	....	1,000	·26	....	1,000
	Total	198	$374\frac{1}{4}$	167	....	100	....	....	14,000			

Rohilkund.	Bijnour	59,270	1,12,057	9,72,775	8 27 3¾	....	....	....	1,61,943	24·00	8,10,832	....
	Mooradabad	31,169	58,928	4,77,117	8 3 13¾	2,10,102	....	....	1,50,891	12·81	3,26,226	....
	Budaon	25,852	48,876	2,40,651	4 36 15	....	....	....	1,38,157	36·00	1,02,494	....
	Bareilly	68,007	1,28,575	6,53,593	5 3 5	....	....	....	3,93,687	12·50	2,59,906	....
	Shajehanpore	42,038	79,478	5,41,042	6 32 4¾	....	....	....	1,81,338	20·00	3,59,704	....
	Total	2,26,336	4,27,914	28,85,178	....	2,10,102	....	....	10,26,016			
Agra.	Muttra	3,672	6,942	58,649	8 17 14	1,485	....	....	1,52,336	23·00	....	93,687
	Agra	1,508	2,851	41,591	14 23 8	99	....	....	96,596	9·68	....	55,005
	Furruckabad	12,904	24,396	95,327	3 36 4¾	....	....	....	50,426	5·37	44,901	....
	Mynpoory	6,236	11,789	40,623	3 17 13⅓	....	....	....	32,745	4·50	7,878	....
	Etawah	10,768	20,358	66,199	3 10 1	5,828	....	....	65,941	11·50	251	....
	Total	35,088	66,336	3,02,389	....	7,412	....	....	3,98,051			
Allahabad.	Cawnpore	15,049	28,452	1,03,009	3 24 10	....	....	....	1,64,506	15·37	....	61,497
	Futtehpore	4,411	8,339	37,060	4 17 12	787	....	....	41,323	6·37	....	4,263
	Humeerpore	2,689	5,083	29,048	5 28 9	167	....	....	26,058	12·00	2,990	....
	Calpee	581	1,098	7,318	6 26 9	....	....	....	12,542	6·06	....	5,224
	Banda	172	325	3,000	9 9 3	....	....	....	30,000	....	....	27,000
	Allahabad	7,781	14,710	91,891	6 9 13	300	....	....	1,34,856	15·00	....	42,965
	Total	30,683	58,007	2,71,326	....	1,254	....	....	4,09,285			
Benares.	Goruckpore	2,25,548	4,26,426	14,84,288	3 19 3	....	....	....	5,70,722	19·37	9,13,566	....
	Azimghur	91,770	1,73,502	20,19,087	11 25 7	....	....	....	12,23,511	37·50	7,95,576	....
	Jounpore	37,053	70,053	3,57,764	5 4 4	344	....	....	85,747	10·00	2,72,017	....
	Mirzapore	17,701	33,465	1,82,169	5 17 11	250	....	....	58,500	6·50	1,23,669	....
	Benares	92,376	1,74,648	5,46,728	3 5 3	1,335	....	....	4,40,186	64·00	1,06,542	....
	Ghazeepore	58,866	1,11,293	9,71,605	8 29 3	286	....	....	4,10,088	43·50	5,61,517	....
	Total	5,23,314	9,89,387	55,61,641	5 24 13¾	2,215	....	....	27,88,754			
	Grand Total	9,68,227	18,30,538¼	1,07,58,508	5 35 1⅓	2,58,071	654	....	61,02,132			

Statement showing the Probable Quantity of Land Cultivated for Sugar in the Districts under | *Probable Quantity of both of*

No.	District.	Estimated Cultivation of Cane in Cawnies, &c.		Equal to Beegahs of 14,000 square feet.	Estimated produce of Jaggery from Cane in Maunds.	Equal to Maunds of 80 lbs.	Average produce per Beegah.	Estimated Number of Palmira, &c., Trees.	
					Maunds.	Mds. S. C.	M. S. C.	No.	
	Ganjam	Acres	4,000	12,000	5,00,000	1,50,000 0 0	12 20 0	Being Zemindary Districts	
	Vizagapatam	... ...	...	...	2,14,655	67,090 20 8	...	Particulars not known	...
	Rajahmundry	Potties or Acres	224 / 1,792	5,376	1,78,000	55,625 0 0	10 13 14	...	15,00,000
	Musulipatam	... ...	...	...	None	... ...	...	...	4,47,533
	Guntoor	Acres	2	6	24	7 2 3¼	1 7 8	...	3,58,153
	Nellore	Goortoo each, equal to 1,37,812½ square feet	1 23/24	12½	240	75 0 0	7 0 0	Palmira	1,84,744
								Date	84,139
									2,68,883
	Bellary	Acres	3,500	10,500	4,20,000	1,31,250 0 0	12 20 0	...	31,382
	Cuddapah	Acres	4,694	14,082	12,52,322	3,85,480 14 8½	27 14 14	Palmira	1,42,827
								Date	5,82,291
									7,25,118
	Kurnool	Acres	81	243	9,720	3,037 30 0	12 20 0	...	30,000
	Chingleput	Cawnies	129	516	15,787	4,933 17 8	9 22 6	...	20,107
	Salem	Acres	1,083	3,249	86,615	27,067 7 8	8 13 2½	...	4,00,044
	North Arcot	Cawnies	4,512	18,048	5,38,705	1,68,345 10 0	9 13 1½	...	1,49,237
	South Arcot	Cawnies	1,006	4,024	1,04,415	32,629 27 8	8 4 5½	...	23,643
	Tanjore	Vallies each equal to 5 Cawnies	101	2,020	34,741	10,795 0 0	5 13 13	Palmira	20,038
								Cocoanut	1,047
									21,085
	Madura	Cawnies	136	544	13,545	4,245 22 8	7 32 0	...	1,41,016
	Trichinopoly	Cawnies	1,027	4,108	74,669	24,584 2 8	5 39 6	Palmira	123
								Cocoanut	51,953
									52,076
	Tinnevelly	S. C. or Cawnies	62 / 76	304	12,143	3,794 27 8	12 22 11	...	17,42,634
	Coimbatore	Cawnies	621	2,484	18,470	18,470 0 0	7 17 6½	...	4,37,087
	Canara	Moodahs or Acres	2,369	7,107	37,540	10,481 10 0	1 19 0	...	12,398
	Malabar	Cawnies	21	84	268	93 32 0	1 4 10	Palmira	36,442
								Cocoanut	36,530
									72,972
	Madras	Cawnies	60	240	8,749	2,735 12 8	11 11 10		35,000
				84,947½	35,20,611	11,00,740 36 11½			64,68,368

Jaggery from Cane	
Ditto from Palmira, &c.	
Total	
Deduct consumption	
Remainder	

the Madras Presidency, the Probable Quantity of Sugar and Jaggery Produced, and t these Consumed in each District.

Estimated produce of Jaggery from Palmira, &c., in Maunds.	Equal to Maunds of 80 lbs.	Average produce per 100 Trees.	Estimated Consumption of the District, whether in Sugar, Jaggery, or the raw Cane itself, the whole being reduced into their equivalents in Jaggery in maunds, computed at an average of per head during the year on the assumed or ascertained population.	Average Consumption per head.	The rate of Conversion into Maunds.
Maunds.	M. S. C.	M. S. C.	Maunds lb. oz.	lbs. oz. dr	lbs. oz. dr.
...	...	...	..... 1,50,000 0 0	8 3 7	At 24 0 0
...	...	...	..... 2,14,655 0 0	5 2 0	25 0 0
56,000	17,500 0 0	1 6 10½	..... 48,000 0 0	1 14 0	The rate is not given in Collector's Statement.
10,543½	3,253 20 0	0 31 5	..... 26,916 15 1⅛	1 12 0	24 10 15 245⅝
6,000	1,843 18 0	0 20 9	..... 28,711 10 7⅛	1 13 10	24 10 15
5,826½			Palmira Jaggery 5,826½ 0 0		
	...	...	Date ditto..... 6,508½ 0 0	2 8 7½	25 0 0
6,508½			Cane ditto 28,245⅜ 0 0		
12,335	3,854 27 8	1 17 5	..... 40,580 15 10		
None	...	...	..... 2,03,041 6 4	4 8 1	25 0 0
1,186	...	...	Palmira Jaggery 1,186 0 0		
			Date ditto..... 27,002 0 0	7 2 4	24 10 0
27,002			Cane ditto 3,16,844 0 0		
28,188	8,694 0 0	1 7 15½	..... 3,45,032 0 0		
None	...	...	..... 26,640 0 0	3 0 0	25 0 0
13,235	4,135 37 8	20 22 9½	..... 64,730 0 0	3 14 8	25 0 0
1,49,998	46,875 0 0	11 28 12	..... 1,72,466 0 0	4 8 0	25 0 0
53,757½	16,800 0 0	11 10 6	..... 1,11,250 0 0	3 2 0	25 0 0
12,206	3,812 20 0	16 6 3	Cane Jaggery 83,015 18 12		
			Palmira ditto 12,206 0 0	3 13 12	25 0 0
			94,221 18 12		
12,295					
1,522	...	...	..... 1,31,773 9 6⅞	2 14 2	24 10 15⅛
13,817½	4,263 33 8	20 12 2			
47,720	14,912 20 0	10 23 0	..... 2,42,666 10 15	4 11 0	25 0 0
8,680¼	1,462 20 0	2 33 11	..... 83,349 9 6	3 6 12	25 0 0
			Cane. In Hindoo Temples and for Maraunt 3,572 5 0		
			Cane. By Population..... 24,399 2 0	9 6 0	
12,73,314⅜	3,94,160 25 0	22 24 12	Palmira. In Hindoo Temples and for Maraunt 2,777 9 0	...	25 0 0
			Palmira. By Population..... 7,59,745 22 0	18 12 0	
			7,90,494 13 0		
1,07,449	1,07,449 0 0	24 23 11	..... 92,051 0 0	9 5 6	At 80 lbs., or 3200 weight per Maund.
6,212	1,941 10 0	15 26 0⅔	..... 36,824 0 0	1 0 0	The rate is not given in Collector's Statement.
35,048½					
45,478½	...	...	..... 1,09,866 21 0	2 8 0	28 0 0
80,526⅔	28,184 4 0	38 26 7			
9,843½	3,075 37 8	8 31 5½	..... 2,63,513 11 8	14 0 4	The rate is not given in Collector's Statement.*
18,89,826	6,62,218 33 0		32,76,783 16 7¹¹/₁₆		
35,20,611	11,00,740 86 11⅔				
18,89,826	6,62,218 33 0				
54,10,437	17,62 959 29 11⅔				
32,76,783	10,67,720 0 0				
21,33,654	6,95,23 29 11⅔				

* Assumed at 25 lbs. per Maund.

The total produce of jaggery in the Madras Presidency is represented to be 1,762,959 maunds of jaggery of 80 lbs. each, equal to 20,987½ tons, of sugar, and the consumption is 1,067,720 maunds, or 12,711 tons, of sugar, leaving available for export 695,239 maunds of jaggery, or 8,276½ tons of sugar.

Bombay.—The fourth Return is that from the Bombay Presidency, and is brought up to April 1848; it comprises only an analysis of the Returns from the different collectorates, and does not enter into any details. The various discrepancies which no doubt exist in the out-turn per acre, the produce per 100 date trees, and the consumption per head in the different Zillahs or districts is not in view, and comment upon them, therefore, is prevented. The Return, however, has no more claim to absolute accuracy than the preceding; for the land under cane cultivation is "estimated" as is the number of date-trees, and it contributes little more information than to show that the quantity of goor or sugar consumed within the Bombay presidency considerably exceeds the quantity raised within its territory, and that for the present, at least, Bombay cannot contribute to the consumption of sugar in Great Britain; although, from my personal knowledge of the lands under Bombay, neither in the quality of the soil, its availability for cultivation, the means of irrigation, or the character of the cane (of which there are four varieties), or the average industry and skill of the people is there any insuperable impediment to there being at a future time a surplus product of sugar for exportation. I have shown in my examination before Lord George Bentinck's Sugar and Coffee Committee of the House of Commons, that a careful cultivator has ample profit upon cane cultivation, even under the former discriminating assessments of field and garden cultivation, and as these assessments have lately been more nearly assimilated and the assessments generally lowered, the advantage to the farmer of cane cultivation would seem to be increased rather than deteriorated. Nevertheless Bombay long has imported, and still continues to import large quantities of sugar for home consumption, beyond the quantity in transit from Java, Siam, and the eastern islands, intended for the markets of the Persian Gulf and Red Sea.

The Return estimates the land in the Bombay presidency under cane cultivation as low as 25,782 acres, producing 6,52,311 maunds of 80 lbs. each of goor, nearly equal to 7,765⅓ tons of sugar, averaging somewhat more than 6 cwt. per acre, which is two-thirds less than the average out-turn per acre in the West Indies, which is represented to be one ton. The consumption per head is given in the Bombay Return at 8 lbs., but upon what authority is not stated. The total consumption is stated to be 7,61,779 maunds of goor, or 9,069 tons of sugar; being 1,296 tons of sugar in excess of the quantity produced. I should consider the quantity produced and the quantity consumed very considerably greater than is represented in the figures of the Bombay Return, the opinion being based upon the Returns from the other Governments, as well as upon my knowledge of the habits of the people.

Date, cocoa-nut, and palm trees are very numerous under the Bombay presidency on the line of coast from Surat to Malwan and Goa. 250,063 trees only are included in the Return, and as only 216

* Maunds 1,09,252 consumed in excess of the produce in the Bombay Presidency.

maunds of goor are said to be produced from them, the trees are evidently devoted to the more lucrative object of obtaining tarree.

Return of Goor Produced and Consumed within the Territory subject to the Presidency of Bombay.

District.	Estimated cultivation of Cane in Acres of 4,840 square yards each.	Equal to Beegahs of 14,400 square feet.	Estimated produce of Goor from Cane in maunds of 82⅔ lbs. each.	Equal to Maunds of 80 lbs.	Average Produce per Beegah.	Estimated number of Date Trees.	Estimated Produce of Goor from Dates in Maunds of 80 lbs.	Total Cane and Date Goor in Maunds of 80 lbs. each.	Estimated Consumption of the District, whether in Sugar, Khaur, Goor, or the Raw Cane itself, the whole being reduced into their equivalents in Goor in Maunds of 82⅔ lbs., each computed at an average of 4 seers, or 8 lbs., per head during the year on the assumed or ascertained Population.	Reduced to Maunds of 80 lbs.
In the Zillahs subordinate to the Bombay Presidency	25,782	77,346	6,34,102	6,52,311	M. S. C. 8 17 5⅔	2,50,063	216 Mds.	6,52,527 Mds.	7,40,497	7,61,779

The Return contains similar details of the cultivation, &c., of the staple in certain native States adjacent to the Bombay presidency; but as these are foreign to the object of the inquiry of the Chamber of Commerce, it is not deemed necessary either to notice or analyze them here.

Abstract Statement of the Cultivation of Lands with Cane, &c., for the purposes of Goor and Sugar, within the Presidencies of Bengal, Madras, and Bombay.

Bengal Division.									North-Western Provinces.								
1.	2.	3.	4.	5.	6.	7.	8.	9.	1.	2.	3.	4.	5.	6.	7.	8.	9.
Total Area of Lands cultivated for Cane Sugar computed at Beegahs of 14,400 square feet each.	Produce of Cane Goor in Maunds.	Average per Beegah.	Total Number of Date Trees.	Produce from Date Trees.	Average Produce per 100 Trees.	Total Produce of Cane and Date Goor.	Total Consumption.	Available for Export.	Total Area of Lands cultivated for Cane Sugar computed at Beegahs of 14,400 square feet.	Produce of Cane Goor in Maunds.	Average per Beegah.	Total Number of Date Trees.	Produce from Date Trees.	Average Produce per 100 Trees.	Total Produce of Cane and Date Goor.	Total Consumption.	Remaining unappropriated.
6,72,071	67,43,772 of 82 lbs., or 69,13,366 of 80 lbs.	M. S. C. 10 1 5⅔ of 82 lbs.	63,90,590	10,37,445 of 82 lbs., or 10,63,381 of 80 lbs.	M. S. C. 16 9 5⅔ of 82 lbs.	77,81,217 of 82 lbs., or 79,75,747 of 80 lbs.	55,37,760 of 82 lbs., or 56,70,924⅓ of 80 lbs.	22,43,457 of 82 lbs., or 22,99,523 of 80 lbs.	18,30,638	1,07,58,508	M. S. C. 5 35 1¼	2,58,071	654 Mds.	M. S. C. 3 12 12 of 19,738 trees.	1,07,59,162 Mds.	61,02,132 Mds.	46,57,030 Mds.

Madras Presidency									Bombay Presidency.								
1.	2.	3.	4.	5.	6.	7.	8.	9.	1.	2.	3.	4.	5.	6.	7.	8.	9.
Total Area of Lands cultivated for Cane Sugar computed at Beegahs of 14,400 square feet.	Produce of Cane in Maunds of 80 lbs.	Average per Beegah.	Total Number of Date, Palmira, and Cocoanut Trees.	Produce from Date, &c., Trees in Maunds.	Average Produce per 100 Trees.	Total Produce in Maunds of Cane, Date, Palmira, and Cocoanut Trees.	Total Consumption in Maunds.	Available for Export.	Total Area of Lands cultivated for the purpose of Cane Sugar converted into Bengal Beegahs of 14,400 square feet each.	Produce of Cane in Maunds of 80 lbs.	Average per Beegah.	Total Number of Date, Palmira, and Cocoanut Trees.	Produce from Date, &c., Trees in Maunds.	Average Produce per 100 Trees.	Total Produce in Maunds of Cane, Date, Palmira, and Cocoanut Trees.	Total Consumption in Maunds.	Available for Export.
84,947⅛	M. 11,00,740	M. S. C. 12 37 9	64,68,368	M. 6,62,218	M. S. C. 10 9 8	M. 17,62,959	10,67,720	M. 6,95,239	77,346	6,52,311	M. S. C. 8 17 5¼	2,50,063	216 Mds.	No average is given, because it is probable that a greater part of the date juice is used for other purposes.	6,52,527	7,61,779	...
	S. C. 36 11			S. C. 33 0		S. C. 29 11¾		S. C. 29 11¾									

Analysis.

	Total Area of Lands Cultivated with Cane.	Total Produce of Cane and Date Goor in Maunds of 80 lbs.	Total Consumption of Cane and Date Goor in Maunds of 80 lbs.	Remainder.	Reduced to Sugar at 13½ Seers to one Maund of Goor.
Bengal Presidency, including the N.W. Provinces	25,02,609	1,87,34,909	1,17,78,356½	69,56,552½	23,18,851
Madras Presidency	84,947	17,62,959	10,67,720	6,95,239	2,31,746⅓
Bombay Presidency	77,346	6,52,527	7,61,779*	....	....
Grand Total	26,64,902	2,11,50,395	1,36,07,855½	76,51,791½	25,50,597

Average Produce of the Soil of Cane Goor in the several Presidencies.

Bengal, per Beegah of 14,400 Square Feet.			N. W. Provinces, per Beegah of 14,400 Square Feet.						Madras, per Beegah of 14,400 Square Feet.			Bombay, per Beegah of 14,400 Square Feet.		
						Benáres Division								
Mds.	S.	C.	Mds.	S.	C.	Mds.	S.	C.	Mds.	S.	C.	Mds.	S.	C.
10	1	5¼	5	35	1⅓	5	24	13¾	12	37	2	8	17	5½

Straits' Settlements.—The Straits' settlements of Prince of Wales' Island, Province Wellesley, Singapore, and Malacca, being dependent upon the East India Company's Government of India, the Governor of these settlements has supplied Returns similar to those furnished from the Indian presidencies. The land under cultivation is estimated, the number of cocoa-nut trees (there not being any date trees in the settlements) used in the production of sugar is estimated, and the population is assumed; with such elements the results can only be approximate and problematical.

The total number of acres under cane cultivation in the three settlements is 4,476 acres, producing 2,28,812 maunds of 82 lbs. each of goor, or 2,792 tons of sugar. In Malacca the sugar cane is consumed in its natural state, and in the two other settlements the average produce per acre is represented to be, Prince of Wales' Island, 4,566 lbs. or more than two tons of goor per acre, or 13⅓ cwt. of sugar, while in Singapore it is only 1,740 lbs., or little more than three quarters of a ton per acre, or 5⅓ cwts. of sugar. The produce from 19,175 cocoanut trees is 16,073 maunds, or 588 tons of goor, or about 196 tons of sugar. At Singapore the cocoanut plantations, which are of great magnitude, are too young to be brought to use at present. The average produce of goor per 100 trees in Prince of Wales' Island is 308 lbs., and in Malacca only 46 lbs. The average consumption of goor per head in the three settlements ranges from 11¼ lbs. to 12⅓ lbs., and these averages are derived from the consumption upon private estates in Prince of Wales' Island and Province Wellesley. The population being assumed at 100,000, the consumption at 11¼ lbs. of goor per head is 502 tons of goor, or 167⅓ tons of sugar, leaving available for export 2,719 tons of sugar annually.

An analysis of the preceding Returns in a tabulated form gives the following results:—

	Acres.	Tons of Sugar.	Date Trees, or Palm.	Tons of Sugar.	Total Sugar.	Consumption	Available for Export.	Consumption of Sugar per head.	Produce per Acre.
					Tons.	Tons.		lbs.	cwt. lbs.
Bengal	224,027	82,290	6,390,590	12,659½	94,949½	67,577½	27,372	3	7 39
N. W. Provinces	610,179¼	128,077½	258,071	8	128,085½	73,644½	55,441	8¼	4 12
Madras	28,316½	13,104	6,468,366	7,883½	20,987½	12,711	8,276½	2½	9 26
Bombay	25,782	7,765½	250,063	7½	7,773½	9,069	None.	8	6 22
Total	888,304½	231,237	13,367,092	20,558½	251,795½	162,001½	*91,989½	...	...
Straits' Settlements ...	4,476½	2,792	19,175	196	2,988	269	2,719	3½	10 27

* From this is to be deducted 1296 tons' consumption over production in Bombay, leaving available for export from India 89,793½ tons of sugar.

No. 1.—*Straits' Settlements.*

Estimated cultivation of Canes in Beegahs of 14,400 square feet each.		Estimated produce of Goor from Canes in maunds of 82 lbs.	Average produce per Beegah.	Estimated Number of Trees producing Goor.		Estimated produce of Goor in maunds of 82 lbs. each.	Average produce per 100 Cocoanut Trees.	Estimated Consumption, whether in Sugar, Khaur, Goor, or the Raw Cane itself, the whole being reduced into their equivalents in Goor, in maunds of 82 lbs. each.
				Cocoanut Trees.	Neepah.			
			Mds. S. C.				Mds. S. C.	
Prince Wales' Island and Province Wellesley	11,864	2,20,640	18 23 6¼	1,500	....	5,684	3 31 9	Assumed Population 1,00,000, at an average consumption of 11¼ lbs. of Goor, gives maunds 13,720.
Singapore	1,152	8,172	7 3 12	The Cocoanut Plantations, of which there are several of considerable magnitude, are not of sufficient age to produce either fruit or Goor to any extent.	Growing wild, number unknown.	....	....	Assumed Population 57,000, at an average of 12 lbs. of Goor each, gives maunds 8,341.
Malacca	413	No Sugar is made from Canes which are all consumed in their raw state.	....	17,675	....	10,389	0 23 8	Assumed Population 52,713, at an average of 12⅓ lbs. of Goor each, gives maunds 7,907.
	13,429	2,28,812	....	19,175	....	16,073	....	

No. 2.—*Return of the Probable Quantity of Land Cultivated for Sugar, and of Sugar and Goor Manufactured and Consumed in the Island of Penang and Province Wellesley.*

Names of Places or Estates in Penang and Province Wellesley.	Estimated cultivation of Cane in Acres of 43,560 square feet each.	Estimated produce of Goor from Cane, in tons of 2,240 lbs. each.	Estimated number of Date Trees.	Estimated produce of Goor from Date, in tons of 2,240 lbs. each.	Estimated Consumption of the Settlement, whether in Sugar, Khaur, Goor, or the Raw Cane itself, the whole being reduced into their equivalents in Goor in tons of 2,240 lbs. each, computed at an average of lbs. 16-782, or of marketable Sugar lbs. 13-585 per head during the year on the assumed or ascertained population.*
Kreean	180	450	There are no Date Trees in these parts, none at least yielding fruit. But Sugar or Goor is manufactured from the produce of the Cocoanut Tree and the Neepah.		$\frac{3}{20}$ for 400 persons on the Estate, under 1 lb a head.
Tuddenham	140	175			$4\frac{1}{2}$ for 400 persons, being above 25 lbs. a head.
Jajawi	366	825			$4\frac{1}{2}$ These 2 estates belong to one proprietor, the number of persons
Val Dor	325	$796\frac{4}{5}$			$2\frac{3}{10}$ is not given. The consumption is quoted at 10 lbs. each.
Tusseh	280	$357\frac{1}{2}$			$1\frac{1}{4}$ for 200 persons, being at the rate of 14 lbs. each.
Looboo Manani	60	$75\frac{1}{2}$			for 450 ditto, at 8 lbs. per head.
Caledonia	170	300			for 415 ditto, at 5 lbs. ditto.
Victoria	320	700			for 500 ditto, at 8 lbs. ditto.
Simpang Ampaty	250	750	,,	,,	
Batu Kawan	206	712			Information cannot be obtained.
Otaheite	170	$428\frac{2}{3}$			
Estates of Europeans, &c., acres	2,467	$5,570\frac{1}{3}$	Tons of Goor from Cane.		
Captain Ferrier's estimate for the Natives, Province Wellesley	1,391	2,506	....	....	$551\frac{3}{20}$ for 59,062 persons, rather short of 21 lbs. a head.
Mr. Gottlieb's ditto of Penang	64	1	At the utmost		—— for 39,721 ditto, at about $6\frac{1}{3}$ lbs. each.
	3,922	8,077			

Total under Cane, &c., acres 3,922, yielding tons 8,077 of Goor, and with an assumed Population of 1,00,000 persons consuming $11\frac{1}{4}$ lbs. of Goor each, as the average of opinions. Total of Goor consumed, assumed to be lbs. 11,25,000, or tons 502 per annum.

* N.B.—This rate is brought out thus:—By No. 1, lbs. $8\frac{1}{2}$ Sugar 6 months' consumption. For the year, lbs. 17, or Goor lbs. 21-25. By No. 2, of Goor lbs. 12-7142, average lbs. 16-982 of Goor, or lbs. 13-585 Sugar.

It is hence seen that 888,304⅓ acres are under sugar cultivation in India, producing 231,237 tons of sagar; that 13,367,092 date, palm, and cocoanut trees produce 20,558½ tons of sugar; that the total consumption of sugar in India is 162,001⅔ tons; Bombay consuming 1,296 tons more than its own produce; leaving available for exportation from Bengal, the north-western provinces, and Madras, 91,089½ tons of sugar. The consumption per head averages from 2½ lbs. at Madras to 8½ lbs. in the north-western provinces, and the produce per acre ranges from 4 cwt. 12 lbs. in the north-western provinces to 9 cwt. 26 lbs. at Madras.

The Straits' settlements, independently of the above, have 4,476⅓ acres under sugar cultivation, producing 2,792 tons of sugar, and the few cocoa-nut trees at present used to extract sugar produce 196 tons. The consumption is reckoned at 269 tons, about 3¼ lbs. per head, leaving available for export 2,719 tons of sugar. The produce per acre exceeds that in India, though falling far short of the West Indies, being 10 cwt. 27 lbs. per acre.

The next consideration is the export trade of sugar from Bengal, which since the equalization of the duties in Great Britain on the colonial and Bengal sugar has rapidly progressed, the average annual value per maund having also gradually increased since 1836-7.

The following table, compiled from Bell's and Wilkinson's Reports of the Exports, commences from the three years previous to the concession first made in favour of the East India Company's territories in Bengal:—

Years.	Exported to Great Britain.	To other Ports.	Total Exports of Sugar and Khaur.	Value.	Average Value per Maund.	Tons.	Price per Ton.
	Mds.	Mds.	Mds.	Sicca Rs.	Rs. A. P.		
1833-34	92,963	1,97,670¼	2,90,363¼	28,08,224	7 15 12		
1834-35	1,54,590	2,03,925	3,58,515	27,90,959	7 12 6⅔		
1835-36	1,95,587	1,73,173¾	3,68,760¾	28,52,515	7 11 9		
				Co's Rs.			£ s. d.
1836-37	3,64,864	2,52,496	6,17,360½	51,38,460	8 5 2	22,600	23 3 6
1837-38	5,95,856	2,18,915	8,14,771	67,18,911	8 3 11¼		
1838-39	7,31,838	1,37,269	8,69,107	74,63,088	8 9 4¼		
1839-40	7,32,651	1,11,238	8,43,889	73,60,036	8 11 6¼		
1840-41	17,17,290	67,501½	17,84,791¼	1,64,68,893	9 3 7¾		
1841-42	14,52,502¼	69,590	15,22,092¼	1,39,16,426	9 2 3¾		
1842-43	15,73,145¾	32,385	16,05,530¾	1,48,35,773	9 3 2¾		
1843-44	15,36,476½	6,104½	15,42,581	1,46,04,641	9 7 5¾		
1844-45	15,18,009	21,108¾	15,39,117¾	1,46,91,956	9 8 8¾		
1845-46	18,31,263¼	8,111¼	18,39,374½	1 78,93,188	9 11 7		
1846-47	16,85,336	29,881¼	17,15,217¼	1,67,98,655	9 12 0¼		
1847-48	16,36,522¾	85,237	17,21,759¾	1,66,28,524	9 10 6¼	63,028½	26 7 8

"The privilege of importing into the United Kingdom sugar, the produce of Bengal, at the lower rate of duty, came into operation here in December 1836, by Act XXXII* of the Government of India. A gradual increase in the exports is perceptible from that year, though 1837-38 was visited by a commercial crisis in England. The very sudden rise in the export, which took place in 1840-41, is to be accounted for by the material reduction in the production of the

* Extended to Madras by Act XV of 1839.

article in the West India colonies, in consequence of the Emancipation Law which had its effect there in 1838, a circumstance which led to an unusual high price for all descriptions in England during the year 1840. The supplies fell off again till the further reduction of the duty from 24*s.* to 14*s.* on Bengal in common with the colonial Muscavado sorts under Act 8 and 9 Victoria, cap. 5, passed in April 1845, in which year the export appears to have been the largest in the list. In 1846, the distinction which before existed between foreign and colonial sugars was brought within a narrower compass, and there was a scarcity of grain in Great Britain during that and the preceding year. These causes, combined with the late commercial disasters, and consequent scarcity of money, seem to have in some measure checked the shipments of this staple, as will be apparent from a reference to the preceding table, but not to such an extent as under the above unfavourable circumstances might have been expected.

"It has been already observed that in various districts in Eastern Bengal there are thousands of date trees which are still unbearing; the production of which may at no remote period materially add to the present aggregate production; and it is an ascertained fact that the cane cultivation in Lower Bengal is fast improving from the Otaheite (known by the natives as Bombay) cane, which has been of late years substituted both for the sake of its quality and yield."

I am indebted to my friend Mr. Porter, of the Board of Trade, for the following valuable table, which enables me to contrast the consumption of sugar per person in England and India.

Imports of Sugar into Great Britain.

Years.	Quantity of Sugar retained for Consumption.	Molasses equivalent to Sugar taken for Consumption.	Sugar and Molasses retained for Consumption.	Average price of Sugar per "London Gazette."	Average price of Sugar including the Duty.	Average Consumption of each Person.
	cwts.	cwts.	cwts.	*s.* *d.*	*s.* *d.*	lbs.
1830	4,147,350	126,595	4,273,945	25 0½	49 0½	19·94
1831	4,233,509	130,734	4,364,243	23 8	47 8	20·11
1832	3,974,627	212,508	4,187,135	28 8½	52 8½	19·
1833	3,780,138	241,457	4,021,595	29 7½	53 7½	17·99
1834	4,013,919	190,492	4,204,411	29 2½	53 2½	18·31
1835	4,116,153	233,429	4,349,582	33 9½	57 9½	19·21
1836	3,676,496	246,405	3,922,901	40 9	64 9	16·58
1837	4,127,446	222,007	4,349,453	34 5	58 5	18·83
1838	4,089,453	197,329	4,286,782	33 7	57 7	18·38
1839	3,847,629	199,987	4,047,616	39 4½	63 4½	17·18
1840	3,606,038	158,672	3,764,710	48 7½	73 10½	15·28
1841	4,057,628	150,696	4,208,328	38 3½	63 5½	17·65
1842	3,868,466	199,865	4,068,331	37 2½	62 5	16·76
1843	4,028,307	168,558	4,196,865	33 11½	59 2	17·11
1844	4,129,443	230,030	4,359,473	33 5	58 7½	17·59
1845	4,856,604	234,700	5,091,304	32 9	46 9	20·33
1846	5,238,656	218,498	5,457,154	34 5	48 5	21·57
1847	5,805,638	239,483	6.045,121	28 3	42 3	23·66
1848	6,208,830	238,894	6,447,724	23 7½	36 7½	24·98

Consequent upon the above analysis are some considerations relating to the very small consumption of sugar per head in India; whether originating in the poverty of the people, the cost of production, or the enhanced price resulting from the great demand for exportation.

The following tables, I, II, and III, show the produce and cost of goor and sugar in the provinces of Behar and Benares and in Lower Bengal. In Table I, 10 beegahs, or $3\frac{1}{3}$ acres, cultivated alternate years with cane at a rent of 5rs. a beegah, or 30*s.* an acre (six times the ordinary assessment). The cost of cultivation is 135rs., the produce 150 maunds of goor at 2 rupees per maund, or 10 lbs. for a shilling; giving a profit upon the goor of 165rs. or $122\frac{1}{4}$ per cwt. upon the outlay. Now as the average consumption in Bengal is 9 lbs. of goor per head, the annual expense is less than a shilling laid out in goor. Assuming the highest average consumption of $24\frac{3}{4}$ lbs. of goor per head in the north-western provinces, the annual outlay would be less than half-a-crown, or $2\frac{1}{4}d.$ per month out of the lowest rate of wages of 72*d.* per mensem. The very great demand for export, therefore, although it necessarily enhances home prices, yet does not appear to do so to the extent to account for the small consumption of goor per person, for it is in this state the produce of the cane is almost wholly consumed by the natives of India.

Carrying on the process, in Table I, of converting goor into sugar, it is shown that the cost is a rupee a maund, or 50 per cent. on the price of the goor, and the return in *three* qualities of sugar and molasses on 450rs. outlay is 500rs., giving a further profit of 50rs., or 11 and a fraction per cent. The highest quality of this sugar selling at 10rs. per maund, 28*l.* per ton, or 3*d.* per lb. This is a somewhat better price ($2\frac{7}{10}d.$ per pound,) than the West Indians get. Supposing then, sugar to sell at 25*l.* per ton, Table I. shows that a capital of 285rs., including cost of cultivation, gives a profit of 215rs. upon $3\frac{1}{3}$ acres of land.

Table II shows the cost and selling prices of goor and three qualities of sugar, the growth of Lower Bengal, to the importer at Calcutta, including transit charges and dryage; but there is a discrepancy between this table and the preceding, for the Calcutta merchant is represented as buying the first quality of sugar at 8rs. per maund (16*s.*), and selling it at $8\frac{1}{2}$rs. or 17*s.*, whereas in Berar the manufacturer of goor into sugar is represented as obtaining 10rs. per maund for the first quality.

Table III gives the cost and selling prices of date goor and sugar in Lower Bengal; the first quality of this sugar is inferior to that from the cane, and costs the merchant 6rs. per maund (12*s.*), he selling it for $6\frac{1}{2}$ per maund (13*s.*) It is used for compounding with cane sugars for refinery purposes.

The following is the native process of manufacturing sugar in the Behar and Benares provinces:—

A quantity of goor, say 5 to 10 maunds, is put in an earthen vessel mixed with one-third of water;—being strained, it is put in a larger receptacle to settle. The clarified part of the goor and the water are placed in an iron boiler. When the goor becomes sticky it is removed to another vessel; being cooled, it is put in a third, and

when settled, the cork at the bottom of the earthen pot is removed and the molasses with the impurities are allowed to run out and collect in a large hole made for that purpose. The goor gets grainy and swells up. Moss* is then applied to the goor for clarifying it;—the molasses are drained off again for three days, after which the moss is taken off, and the clarified part, which then becomes white and swollen to a height of about 1½ to 2 inches on the top of the mass of sugar, is collected, and this process of clarifying is continued till 15 to 20 maunds are collected together, when the whole quantity is spread in the sun on a piece of cloth and trampled upon by Coolies employed for the purpose; by that means the large and thick grains, which before were of a yellowish colour, are reduced to the size of smaller crystals, and the whole quantity becomes of an uniform white colour.

TABLE I.

Assumed Cost and Selling Prices of Sugar in the Provinces of Behar and Benares, during seasons of moderate growth and demand.

					Rs.	
Ground rent at 5 Rupees per Beegah for 10 Beegahs, cultivated in alternate years, 10 more lying fallow					100	
Labour, cuttings, and irrigation					35	
						135
Produce of Goor—150 Maunds of 80 lbs. at 2 Rupees per Maund					....	300
Profit					....	165
MANUFACTURE OF SUGAR.						
Cost of Goor					300	
Charges for Manufacturing Sugar					150	
						450
PRODUCE.	Mds.	Srs.				
1st Quality	37	20	at 10 Rupees per Maund		375	
2nd Ditto	7	20	at 8 „	„	60	
3rd Ditto	5	0	at 6 „	„	30	
Molasses	70	0	at 8 Annas	„	35	
						500
Profit					....	50

These provinces, including the districts in the Patna division, produce the largest quantities of sugar, the greater part of which is sent down to Calcutta for the English market. It is to be remarked that upon an invested capital of only 285 rupees, including the cost of cultivating 10 beegahs of land, or 20 beegahs in alternate years, and the manufacture of the produce thereof, an actual profit of 215 rupees would accrue to the grower at the rates assumed above. The prices of this season (1848) when they have ruled exceedingly lower than they were known of late years, form no criterion for judging of the average value of this staple.

* Sheealla.

TABLE II.

Assumed Cost and Selling Prices of Cane Goor, Khaur, Dullooa, and Sugar the growth of Lower Bengal, in seasons of moderate crop and demand.

Quality.	Goor.		Khaur.		*Dullooa.		Sugar.		REMARKS.
	Cost.	Selling Price	Cost.	Selling Price.	Cost.	Selling Price.	Cost.	Selling Price.	
1st Quality	2	2-8	†4-4	4-8	†7	7-8	†8	8-8 to 9	The Sugars refined by European process at the several factories in the vicinity of Calcutta, Dhoba Factory, and Tirhoot, are chiefly exported to England on the proprietor's account, and are seldom brought to the market for sale here.
2nd Ditto..	1-12	2	4	4-4	6-8	7	7-8	8 to 8-4	
3rd Ditto..	...	...	3-12	4	6	6-8	...	...	
4th Ditto..	...	...	3-8	3-12	5-8	9	...	...	

TABLE III.

Assumed Cost and Selling Price of Date Goor, Khaur, Dullooa, and Sugar, the growth of Lower Bengal, in seasons of moderate produce and demand.

Quality.	Goor.		Khaur.		Dullooa.		Sugar, called Gurputteeah.		REMARKS.
	Cost.	Selling Price.	Cost.	Selling Price.	Cost.	Selling Price.	Cost.	Selling Price.	
1st Quality	2	2-6	3-4	3-10	5-8	6	6	6-8 to 6-10	Date Sugar is used at the factories here and exported chiefly for compounding with Cane Sugar for refining purposes.
2nd Ditto..	1-12	2	3	3-4	5	5-4	5-12	6-4	
3rd Ditto..	1-10	1-14	2-14	3-3	4-12	5	5-8	6	
4th Ditto..	1-8	1-10	2-12	3	4-8	4-12	5-4	5-8	

The Calcutta export table shows that since the equalization of the duties in 1836, the export of sugar has risen from 6,17,360 maunds to 17,21,759 maunds in 1847-8, and the value from 51,38,460 rs. (513,846*l.*) to 1,6628,524 rs. (1,662,852*l.*) in 1847-8, and that the increased demand had raised the price of sugar in the Calcutta market from 8 rs. 5 a. 2 p. per maund to 9 rs. 10 a. 6½ p. per maund in 1847-8; being a difference of nearly 16 per cent. What effect the admission of slave-grown sugar into Great Britain may have upon the production and export of sugar from India remains to be seen. Table I. shows that a ton of sugar in Berar can be raised at the cost of 15*l.* 19*s.*, paying six times the ordinary assessment upon the land in the north-western provinces. The "Times" of the August, 1849, has the following article on the relative cost of slave and free labour sugar:—

"In the old days of West Indian prosperity, when planters suffered no penalties save those of surfeits and extravagance, the cost of an able-bodied slave was, we believe, about 80*l.* At this figure he was expected to be some 25 years of age, and to have 10 years' honest work in him, and the number of his working days throughout the year was usually set at 310 out of the 365. This was not a very

* Dullooa is a medium quality between Khaur and Sugar.

† These are prices which stand the importer at Calcutta, including transit charges and dryage.

rigorous proportion, perhaps; but, then, for a proportion of this period he was worked at 'crop time' hours, and during the rest of the year a respectable 12 hours' labour was expected from him. This, to be sure, is no more than what an English labourer gives—from 6 to 6—allowing for meal-time in both cases, nor was the work always very laborious, but still the total amount performed was considerable. Its results were estimated by some such calculations as the following:—A good healthy slave would cultivate two acres annually, and an acre was ordinarily expected to produce about one ton of sugar and a due proportion of rum, that is, about 60 gallons to a ton. Or, putting the estimate in another form, the estate was considered to be doing pretty well if one hogshead of sugar of 17 cwt., with its proportion of rum, was produced for every head of slave stock upon it, reckoning old and young together. The cost, then, of an able-bodied slave would have stood thus against his earnings:—

	£	s.	d.
10 per cent. on his original price	8	0	0
Food, clothing, &c. (almost exactly that of a Russian soldier)	5	0	0
Depreciation and mortality on 10 years at 10 per cent.	8	0	0
Total annual cost	21	0	0
2 tons of sugar, say	50	0	0
120 gallons of rum	18	0	0
Total annual earnings	68	0	0
	21	0	0
Profit	47	0	0

"Now, when the experiment is made with 'free labour,' that is, as it should be always remembered, with such labour as an emancipated negro can be brought to give in a country where he has no natural or artificial wants to supply, the results found are these:—Say that he works the same number of days, 310, yet the average duration of his labour will certainly not be above 6 or 8 hours a-day, and the total average produce cannot be calculated at more than one-half that of the slave. So that if his wage—one shilling a-day—be compared with his work, the following will be the conclusion:—

	£	s.	d.
One ton of sugar	25	0	0
60 gallons of rum	9	0	0
	34	0	0
Deduct wages, 310 days	15	10	0
	18	10	0
Profit of slave over free labour	28	10	0

"These calculations indicate the true point of our planters' disabilities, viz., the deficiency of effective labour. The annual cost of a slave exceeds by more than 20 per cent. the wages of a free labourer, but so ineffective is the work of the latter that this advantage is soon neutralized, and the difference rises above the compensation of any

moderate differential duty. The great object, then, if we would still retain sugar at its present reasonable rates, is to furnish our own plantations with better supplies of labour, and seek out, at the same time, fresh fields of action, where this indispensable auxiliary to success is readily procurable. We have now a statement before us containing proposals for establishing a sugar plantation in the British settlement of Malacca, the soil and climate of which are said to be eminently favourable to such culture, while the all-important commodity of labour is poured in abundantly by the Chinese immigrations from Singapore. The Straits' Government, it is stated, has granted liberal tracts of land rent-free for five years, for the purposes of the undertaking, and has expressed every desire to promote it by encouragement and aid. A Chinese 'contract labourer' is estimated to be worth, wage and work being compared together, fully 12*l.* 5*s.* per annum more than an able-bodied negro slave, and the calculations of the proprietors are intended to prove that the Brazilian and Cuban planters could be fairly undersold by the produce of our own possessions raised by free labour. We pronounce no opinion upon the soundness of these conclusions, but it is only too clear that if we do not by some means obviate what will soon become the monopoly of slaveholding sugar-growers, we shall expiate our injustice to our own colonists in a very appropriate but extremely unpleasant manner."

If these calculations be correct, a slave, at a cost of 21*l.* annually, produced two tons of sugar at 10*l.* 10*s.* per ton, besides molasses. Unless, therefore, the cost of production in India can be reduced, slave-grown sugar will affect the exports from India. But I cannot conceive that slave labour really can supersede the free labour of India obtainable to any extent at 6*s.* per month, all charges included; and land to any extent at 2*s.* 6*d.* to 5*s.* an acre, of which land, in the sugar-growing district of Goruckpore alone, there are 1,599,586 acres, and in the whole of the north western provinces above ten millions of cultivable acres at present unappropriated. In so favourable a light is Goruckpore viewed for sugar cultivation, that the following paragraph appears in the Government statement:—

"The cane cultivation and the manufacture of sugar are steadily increasing in the district of Goruckpore, for two reasons, which give it a decided advantage over the neighbouring districts:—one, the vast tract of waste and jungle-boory or forest lands brought under cultivation, and the cheap rates at which these are procurable there; and the other is that firewood is more abundant and much cheaper there than in the other sugar-growing districts, where all sorts of fuel are daily getting scarcer and dearer.

"Several of the manufacturers of sugar in the latter have already removed to Goruckpore, and it is understood that others will follow at no distant period."

On the whole, therefore, I would fain hope that the interests of millions of our subjects in India may not really be endangered by the reported low cost of the production of slave-sugar.

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